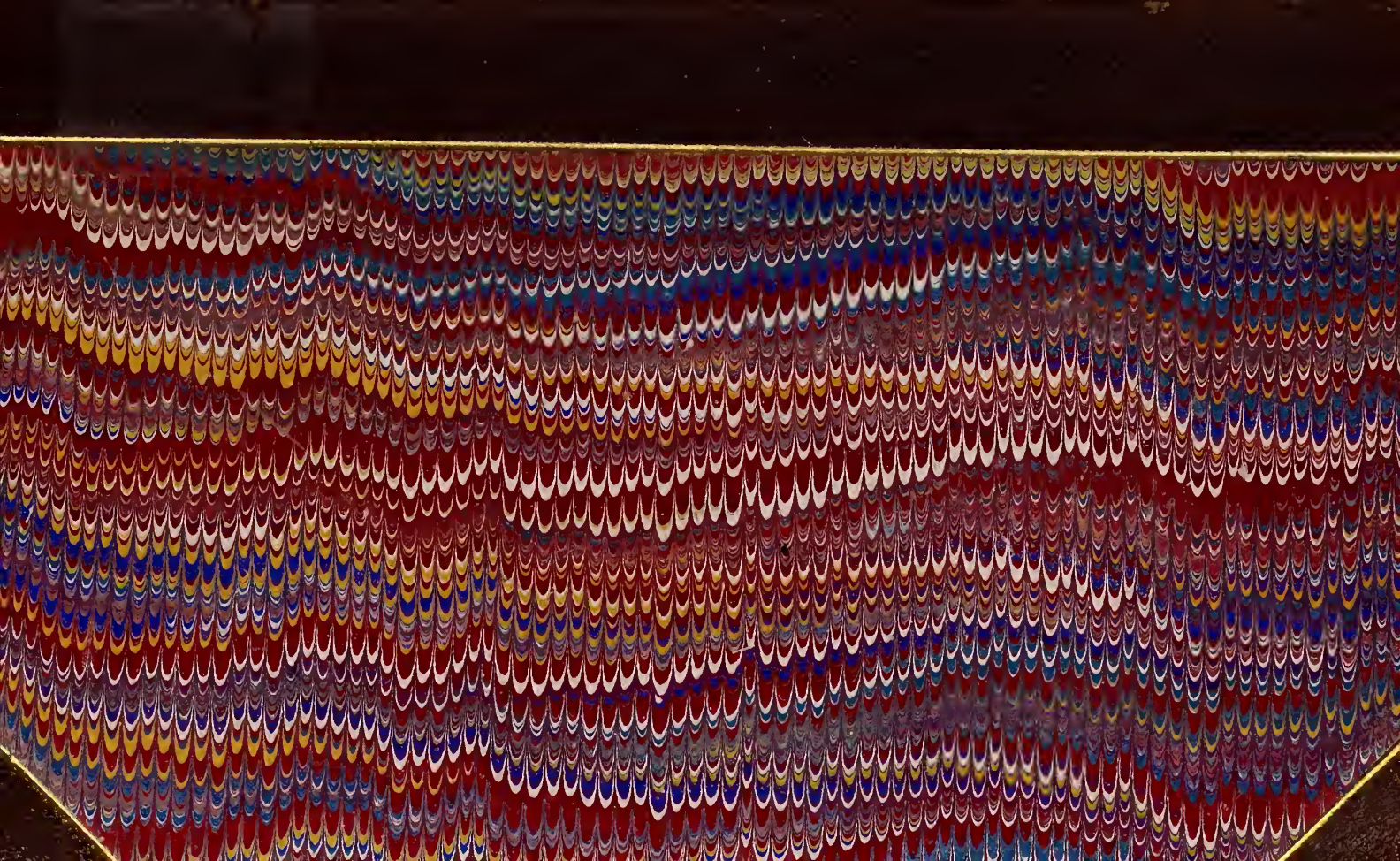

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THE

JOURNAL

OF THE

ROYAL ASIATIC SOCIETY

OF

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ERRATA.

Report, 1878, p. lxv, line 24, *for* obtained by Mr. G. Smith, *read* purchased of M. Spartuli.

,, ,, ,, 28, *for* one, *read* two.

,, ,, ,, 29, *before* from Van, *insert* and, secondly, some bronze objects, one with the name of King Argisti.

,, ,, ,, 31, *for* bronze, *read* terra-cotta.

,, ,, *for* Mr. Layard (twice in this page) *read* Sir A. H. Layard.

A LANGUAGE MAP OF INDIA AND ITS BORDER LANDS

Scale of English Miles

REFERENCE

GROUPS.

Aryan — Colored

Dravidian

Kolarian

Khasi-Burman

Khasi

Ka

Mon-anam

NOTE The Khasi-Burman between the Kols and Ka of Independence in Nepal is mixed with Nepalese and Khasi. Names in brackets are dialects of the above languages.

TIBETAN

HORPA

SOKPA

THOCHU

GYARUNG

MANYAK

TAKPA

BHOTIA

LASSA

KHAMTI

SINGPHO

MISHMI

KACHARI

GARO

KHASI

MANIPURI

PALOUNG

SHAN

MANDELAY

CHINESE

TROPIC OF CANCER

KHMUS

LEMET

SIAMESE

KAREN

MON

TALAING

BURMESE

ANNAMESE

HINDI

PANJABI

SINDHI

BALUCHI

BRAHUI & BALUCHI

KEIAT

BALUCHI & SINDHI

KAFIR

KASHMIRI

BUNAH

KANAWARI

NEPALESE

KIRANTI

LIMBU

LEPCHA

MAGAR

GURUNG

SUNWAR

NEWAR

KUSUNDA

CHEPANG

BHRAMU

KURKU

KORWA

KHARIA

MUNDARI

SANTHAL

BHUMIJ

HO

ORAON

MAHARI

BANGALI

ASSAMESE

KHAMTI

SINGPHO

NAGA

KUKI

LUSHAI

TIPPERA

KACHA

MIKIR

(RENGMA)

ARUNG

UYANG

KAPUI

MANING

THADO

SHENDU

BANJOGI

TIPPERA

KYAU

SAK

MURI

KHYENG

KARENS

LISAW

MARATHI

GUJARATI

KONKANI

KANARESE

TELUGU

TAMIL

MALAYALAM

TULU

KOTA

TODA

GOND

KHOND

SAVARA

OORIYA

JUANG

HINDI

BOMBAY

CALCUTTA

MADRAS

HYDERABAD

CEYLON

SINHALESE

TAMIL

Trincomalee

Pedrotallagalla Mt.

Adam's Peak

Galle

Cape Comorin

Gulf of COLOMBO

Gulf of MANAR

Palk Strait

Vaigai R.

Tuticorin

Tinnevelly

Trichinopoly

Pondicherry

Tranquebar

Karical

Cuddalore

Pulicat L.

Nellore

Coromandel Coast

Vizagapatam

Coringa

Godavery R.

Masulipatam

Krishna R.

Goa

Mangalore

Honawar

Mahe

Calicut

Cochin

Trivandrum

Beypore

Palghat

Seringapatam

Bangalore

Salem

Madura

Kolar

Cuddapah

Ellore

Guntoor

Nagpore

Jubbulpore

Mandla

Rewah

Moonshedabad

Cuttack

Balasore

Sunderbunds

Ganjam

Chilka L.

Juggernaut

Godavery R.

Ahmednuggur

Poonah

Sattara

Beejapore

Ratnagherry

Kolapore

Belgaum

Dharwar

Goa

Sirsi

Honawar

Mangalore

Calicut

Beypore

Cochin

Trivandrum

Tuticorin

Tinnevelly

Trichinopoly

Salem

Madura

Kolar

Bangalore

Seringapatam

Coimbatore

Palghat

Cape Comorin

Gulf of Cambay

Gulf of Kutch

Kattiawar Pen.

Surat

Baroda

Indore

Bhopal

Ujjain

Oojein

Mhow

Bhopal

Bundelcund

Gwalior

Agra

Delhi

Meerut

Lucknow

Allahabad

Benares

Ghazeepore

Patna

Bhagulpore

Monghyr

Rajmahal

Burdwan

Hooghly R.

Calcutta

Sunderbunds

Balasore

Cuttack

Chilka L.

Ganjam

Juggernaut

Vizagapatam

Coringa

Godavery R.

Masulipatam

Krishna R.

Guntoor

Ellore

Nellore

Cuddapah

Pulicat L.

Madras

Pondicherry

Tranquebar

Karical

Palk Strait

Trincomalee

Gulf of Manar

Gulf of Martaban

Andaman Islands

Nicobar Islands

Preparis I.

Cocos Islands

Laccadive Islands

Maldive Islands

Arakan R.

Irrawaddy R.

Sittang R.

Salwen R.

Mekong R.

Menam R.

Yangtsekiang R.

Yunnan

Tali

Bhamo

Mandalay

Ava

Amarapura

Prome

Pegu

Martaban

Bassein

Tavoy

Mergui

Salangi

Ichin

Lake Yamdok

Yarow of Sampoo

Shanglatshe

Shigatze

Lake Palte

Dhaulagiri Mt.

Everest Mt.

Kinchinjunga Mt.

Chumulari Mt.

Kailas Mt.

Kuen Lun Mts.

Karakorum Mts.

Himalaya Mts.

Indus R.

Sutlej R.

Jumna R.

Ganges R.

Brahmaputra R.

Irrawaddy R.

Salwen R.

Mekong R.

Yangtsekiang R.

Hoang ho R.

Yellow Sea

Gulf of Martaban

Andaman Islands

Nicobar Islands

Preparis I.

Cocos Islands

Laccadive Islands

Maldive Islands

JOURNAL

OF

THE ROYAL ASIATIC SOCIETY.

ART. I.—*On the Non-Aryan Languages of India.* By E. L. BRANDRETH, ESQ.

IN the Address delivered by him at the Second International Congress of Orientalists, in 1874, Prof. Max Müller remarks, "No real advance has been made in the classification of the Non-Aryan Indian dialects since the time when I endeavoured, some twenty years ago, to sum up what was then known on that subject in my letter to Bunsen, 'On the Turanian Languages.'" A table of the Indian languages is given by Max Müller in that most popular work of his, eight editions of which have already been published, the Lectures on the Science of Language. A very few lines are devoted to these languages in the Lectures: for further particulars we are referred to the above-mentioned letter on the Turanian languages. Some important materials, however, for the study of the Indian languages, have been collected since that letter was published; and it is evident that, if Max Müller had had those materials before him, he would have written about the languages of India in some respects very differently. He would not, for instance, have remarked, regarding that enormous number of languages on our northern and eastern frontiers which he calls Sub-Himalayan and Lohitic, that, "with the exception of the Naga dialects, none distinguishes the persons of the verb by either affixes or prefixes;" because many other languages besides the Naga do thus distinguish the persons of the verb, and in some of them the structure of the verb is of the most com-

plex description; and, further, though we have not, as yet, the materials for making anything but a provisional classification of these languages, yet one or two of what appear to me to be errors in Max Müller's classification may be corrected. Sarpa, for instance, is a mere dialect of Tibetan, and Changlo is very closely related; and yet Tibetan, Sarpa, and Changlo are all three placed in separate subdivisions. Burmese again, which is not classed with Tibetan, is certainly more like Tibetan than it is to some of the languages, such as Dhimal and Kachari, with which it is classed. Further, I think a more detailed classification than Max Müller's may with advantage be adopted, by dividing these languages into subclasses based upon differences of verbal structure or other characteristics.

My object in this paper is to give a brief sketch of the different groups into which the non-Aryan languages of India may be formed, derived from more recent materials than those which were available to Max Müller. These materials are described by Mr. Cust in certain communications made by him to the Philological Society, and published in the two last Annual Reports of that Society. Some of the books referred to he procured from India, as they were not to be had in this country. Another object I have in view is, to call attention to the very little that, after all, is known of most of these Indian languages, in the hope that, if the necessity for further investigation is prominently noticed by such a Society as the Asiatic, scholars in India may be moved to do something to that end. It is not to our credit that so little on the whole should be known of the languages spoken by our non-Aryan fellow-subjects in India, or by those non-Aryans on the immediate frontiers of British India with whom our officers are frequently brought in contact. The Dravidian group, as was to be expected from its importance, has received the most attention; yet, even here, much remains to be done. It is supposed that this group extends almost continuously from Cape Comorin to the Ganges. The most northerly member of the group is supposed to be the Rajmahali; but we have only a very meagre vocabulary of the language, and

though it is spoken within a few hours' rail of Calcutta, we know nothing whatever of its grammar. Much less attention has been paid to the other South-Indian group, the Kolarian. Of the Savara, for instance,—the Sabaræ of Ptolemy, a language which was considered of sufficient importance to be marked by a separate colour on the language map which accompanies the Madras Census Report,—we have only a very imperfect vocabulary. From this vocabulary it appears probable, but by no means certain, that the Savara belongs to the Kolarian group; but no sketch has been vouchsafed of its grammar. Of most of the other languages also of this group it is very little that we know. Of the numerous languages, again, on our northern and eastern frontiers, there is not one in twenty of the grammar of which we know anything at all.

The language map which accompanies this paper has been prepared from the best information I could get up to the present time, though doubtless the boundaries and positions of the languages are not in all cases exactly described. At the end of the paper I have given a table of all the languages and dialects of which (so far as I know) vocabularies have been published.

I will commence with the Dravidian group. The Dravidian are the principal languages of the South of India, and are spoken by about 46 millions of people. Twelve languages are distinguished by Caldwell, viz. Tamil, Malayálam, Telugu, Canarese, Tulu, Kudagu, Tuda, Kota, Gond, Khond, Oraon, Rajmahál. In the Dravidian group there is a rational and an irrational gender of the nouns, which is distinguished, in the plural of the nouns, and sometimes in the singular also, by affixes which appear to be fragmentary pronouns; by corresponding pronouns, and by the agreement of the verb with the noun, the gender of the verb being expressed by the pronominal suffixes. To give an instance of verbal gender, we have in Tamil from root *sey* 'to do,' *śeyd-ān* 'he (rational) did'; *śeyd-āl* 'she (rational) did'; *śeyd-adu* 'it (irrational) did'; *seyd-ār* 'they (the rationals) did'; *seyd-a* 'they (the irrationals) did'; the full pronouns being *avan* 'he,' *aval* 'she,' *adu* 'it,' *avar* 'they,' *avei* 'they.'

This distinction of gender, though it exists in most of the languages, is not always carried out to the extent that it is in Tamil. In Telugu, Gond, and Khond it is preserved in the plural, but in the singular the feminine rational is merged in the irrational gender. In Gond the gender is further marked by the noun in the genitive relation taking a different suffix, according to the number and gender of the noun on which it depends. In Oraon the feminine rational is entirely merged in the irrational gender, with the exception of the pronoun, which preserves the distinction between rationals and irrationals in the plural; as, *as* 'he,' referring to a god or a man; *ád* 'she,' or 'it,' referring to a woman or an irrational object; but *ár* 'they,' applies to both men and women; *abrá* 'they,' to irrationals only. The rational gender, besides human beings, includes the celestial and infernal deities; and it is further subdivided, in some of the languages, but in the singular only, into masculine and feminine. An instance of this subdivision in the Tamil verb was given above.

The grammatical relations in the Dravidian, as in most, but by no means in all, the non-Aryan languages, are generally expressed by suffixes. Many nouns have an oblique form, which is a remarkable characteristic of the Dravidian group; still, with the majority of nouns the postpositions are added directly to the nominative form. Other features of this group are the frequent use of formatives to specialize the meaning of the root; the absence of relative pronouns and the use instead of a relative participle, which is usually formed from the ordinary participle by the same suffix as that which Dr. Caldwell considers as the oldest sign of the genitive relation; the adjective preceding the substantive; of two substantives the determining preceding the determined; and the verb being the last member of the sentence. There is no true dual in the Dravidian languages, and the instance quoted by Caldwell of *nām* in Oraon as meaning 'we two,' does not seem correct, as, according to Flex's grammar, it is the inclusive plural of the pronoun. In the Dravidian languages there are two forms

of the plural of the pronoun of the first person, one including, the other excluding, the person addressed. As regards the verbs, there is a negative voice, but no passive voice, and there is a causal form. Grammatical categories and relations are sometimes expressed by a modification of the root, instead of by affixes; for instance, in Tamil, as pointed out by Caldwell, the final sonant is changed into a surd, and doubled, to convert an intransitive into a transitive verb, to form the preterite tense, to form derivative nouns from verbal themes, and to change a substantive into an adjective. Similar changes also take place in the other languages, though not quite to the same extent. Then there are changes of the initial consonant of the second of two nouns in juxtaposition, showing their relations, some of which resemble the mutation of consonants in Keltic grammar. Thus, in Canarese and Telugu, as in Welsh, an initial surd is changed into a sonant to show that the preceding noun is in the genitive relation; as in Telugu poetry, *puli doka* 'a tiger's tail,' which translated literally into Welsh would be *teigr-gynffon*; the radical forms being *toka* and *cynffon*, both signifying 'a tail.' Nor are root-vowels unchangeable. There are instances of the lengthening of the root-vowel to convert a verb into a noun, without any extraneous addition; of the shortening of the root-vowels of the pronouns of the first and second person in the oblique form; and there is the Tamil and Canarese shortening of the root-vowel in the preterite tense.

Next to the Dravidian, and also south of the Vindhya, we have the Kolarian, a much smaller group, which probably does not include more than two millions of people, though ethnologically the group is very much larger. The principal members of this group appear to be the Santáli, Mundári, Ho, Bhumij, Korwa, Kharria, Juang, Kurku, and probably Savara; some of these are not distinguished from each other by more than dialectal differences. The Juangs are isolated amidst an Uriya-speaking Aryan population; they disclaim all connexion with the Hos or other Kolarians; and yet they have preserved a remarkable number of common words. The Kurkus of the Central Provinces are separated by a distance

of 300 or 400 miles from the main body of the Kolarians; and yet the Kurku is hardly more than a dialect of the Santáli, showing, as will also be seen to be the case as regards several dialects in other groups, that there is, by no means of necessity, a rapid divergence of Turanian dialects, as has been generally supposed, in consequence of their isolation. The Kolarian group has both the cerebral and dental row, and also aspirated forms, which last, according to Caldwell, did not belong to early Dravidian. There is also a set of four sounds, which are perhaps peculiar to Santáli, called by Skrefsrud semi-consonants, and which, when followed by a vowel, are changed respectively into *g*, *j*, *d* and *b*. Gender of nouns is animate and inanimate, and is distinguished by difference of pronouns, by difference of suffix of a qualifying noun in the genitive relation, and by the gender being denoted by the verb. As instances of the genitive suffix, we have in Santáli *in-ren hopon* 'my son,' but *in-ak orak* 'my house.' With this may be compared the signs of the genitive relation in Gond, as before alluded to, in the Modern Aryan languages of India, and in the Zulu of South Africa, in all of which a noun in the genitive relation has a different sign according to the gender of the noun on which it depends.

There is no distinction of sex in the pronouns, but of the animate and inanimate gender. Of the demonstrative pronouns in Santáli, seven end in *i* for the animate, and seven in *a* for the inanimate gender. The dialects generally agree in using a short form of the third personal pronoun suffixed to denote the number, dual and plural, of the noun, and short forms of all the personal pronouns are added to the verb in certain positions to express both number and person, both as regards the subject and object, if of the animate gender; the inanimate gender being indicated by the omission of these suffixes. No other group of languages, apparently, has such a logical classification of its nouns, as that shown by the genders of both the South Indian groups. The genitive in the Kolarian group of the full personal pronouns is used for the possessive pronoun, which again takes all the postpositions, the genitive relation being thus indicated by the

genitive suffix twice repeated. The Kolarian languages generally express grammatical relations by suffixes, and add the postpositions directly to the root, without the intervention of an oblique form or genitive or other suffix. They agree with the Dravidian in having inclusive and exclusive forms for the plural of the first personal pronoun, in using a relative participle instead of a relative pronoun, in the position of the governing word, and in the possession of a true causal form of the verb. They have a dual which the Dravidians have not, but they have no negative voice. Counting is by twenties, instead of by tens, as in the Dravidian.

The Santáli verb, according to Skrefsrud, has 23 tenses, and for every tense two forms of the participle and a gerund. The root is the future, and the various tense signs are suffixed thereto. The verb, by incorporating the short forms of the pronouns, expresses number and person of both an animate subject and object: thus *Thākur kakai-ko e-dandom-ko-a* 'God sinners will punish.' The pronominal form denoting the subject may be either prefixed or made the last suffixed syllable; that denoting the object is inserted between the tense sign and the following *a*, which is a sort of verbal base, by means of which any part of speech may be used as a verb. In the above instance *dandom* is the root, which signifies 'will punish'; *e* is the pronominal denoting that the subject is animate and singular; *ko* that the object is animate and plural. For the dual the pronominal form is *kin*. If the subject and object in the above example had been inanimate, then both the *e* and *ko* would have been omitted. In Ho and Mundari, the pronominal form which points to the animate subject of the verb often comes both before and after the verb; thus, if a pronoun is the subject, it may be repeated three times: at the beginning of the sentence and before and after the verb. It is very good Mundari to say *Ain ka-in jomtana-in*='I not—I am-eating—I,' that is, 'I am not eating.'

A peculiar characteristic of the Kolarian group is that there are two forms for each tense. In Santáli these two forms represent the different relations of the objects to the verb—thus we have *ti e-tiar-ad-in-a* 'he stretched the hand

towards me'; *tanga e-rech-ked-in-a* 'he took the axe from me.' In these instances *ad* and *ked* are two different forms of the recent past tense, and the pronoun *in* 'me' of the remoter object is incorporated with the verb. In Ho and Mundari, however, the two sets of tense forms are explained in a different way, namely, as serving to distinguish a transitive from an intransitive verb, which is a distinction not made in Santáli. Kolarian grammar apparently recognizes none of the root-changes of the Dravidian, but derivative forms are not always indicated by affixed particles only, but occasionally by infixes—thus in Santáli a noun may be formed by infixing *t*, *p*, or *n* with the same vowel as that of the root, for instance, *ra-pa-j* 'a collection of kings,' from *raj* 'a king'; *u-nu-m* 'immersion,' from *um* 'to bathe.' The reciprocal active voice is formed in a similar manner by the insertion of *p*; thus, *da-pa-l* 'strike together,' from *dal* 'to strike.' Besides its numerous tenses and participles, the Santáli verb has four voices and several moods, and every voice has four forms. The other dialects have not apparently nearly so many verbal forms as the Santáli, but most of them are alike in regard to the most characteristic features of their grammars. Kharria would seem, from Col. Dalton's specimen, to have lost its dual and plural forms; and perhaps the same is the case with Juang, which most resembles Kharria, and of which we have only a bare vocabulary of a few words.

The two groups of which I have spoken, the Dravidian and Kolarian, are the principal, and probably the only groups of languages south of or included within the limits of the Vindhya mountains. There are, however, many other aboriginal tribes, such as Bhíls, Baigás, Boyars, Kaurs, Rautias, and others, that have lost their language, but are generally ethnologically said to belong either to the Dravidian or Kolarian group.

The non-Aryan languages south of the Vindhya are separated by a very broad belt of Aryan tongues from the non-Aryan languages of our northern and eastern frontiers. The chief group we then come to is what has been called the Tibeto-Burman, from the two principal languages included in

it—an immense group—the boundaries of which in the present state of our knowledge are very doubtful. It is impossible to give even an approximate number of the speakers included in this group, as many of the languages are either across the frontier or only project a short distance into our own territory. The languages included in this group have not, with perhaps one or two exceptions, both a cerebral and dental row, like the South-Indian languages; some of them have aspirated forms of the surds, but not of the sonants; others have aspirated forms of both. In the languages on the Burmese side there are also sounds like the Persian *khe* and *ghain*, and Burmese has our English *th*. Both the Tibetan and Burmese have characters of considerable antiquity derived from the Sanskrit. The pronunciation of both these languages has greatly changed since these characters were first introduced. In Tibetan, as spoken in Lhasa and Tibet proper, the first member of a compound of consonants is generally not pronounced at all, while many compounds take altogether different sounds; sonants are for the most part pronounced as surds, final *s* is not pronounced, and some other final consonants are hardly heard. In Western Tibet, however, most of the consonants are pronounced as written. In Burmese, on the other hand, the surds are frequently pronounced as sonants; an *r* is pronounced as if it were *y;* some final consonants are mute, or they are often changed into different sounds; the vowel *a* is also pronounced as if it were *ĕ* or *i* before certain final consonants. In Arakan, however, the orginal pronunciation is more frequently preserved. The languages of this group, even those which most diverge from each other, have several words in common, and especially numerals and pronouns, and also some resemblances of grammar. In comparing the resembling words, the differences between them consist often less in any modification of the root-syllable, than in the various additions to the root; thus in Burmese we have *nā* 'ear,' Tibetan *rna-ba*, Magar *na-kep*, Newar *nai-pong*, Dhimal *nā-hāthong*, Kiranti dialects *nā-pro*, *nā-rēk*, *nā-phāk*, Naga languages *te-na-ro*, *te-na-rang*, Manipuri *na-kong*, Kupui *ka-nā*, Sak *aka-nā*, Karen *na-khu*,

and so on. It can hardly be doubted that such additions as these to monosyllabic roots are principally determinative syllables for the purpose of distinguishing between what would otherwise have been monosyllabic words having the same sound. These determinatives are generally affixed in the languages of Nepal and in the Dhimal language; prefixed in the Lepcha language, and in the languages of Asam, of Manipur, and of the Chittagong and Arakan hills. Words are also distinguished by difference of tone. The tones are generally of two kinds, described as the abrupt or short, and the pausing or heavy; and it has been remarked that those languages which are most given to adding other syllables to the root make the least use of the tones; and *vice versa*, where the tones most prevail, the least recourse is had to determinative syllables.

It is not, however, in words only, but to some extent in grammar also, so far as we have any materials to judge from, that even the most remotely apart languages of the group resemble each other. One of the most prominent points in which such resemblance is found is the use of the formatives *pa* and *ma*, or modifications of them, as *po mo*, etc., to distinguish sex, and also to form nouns of agency and gentile and other nouns, with distinction of sex; *na*, *nu* or *ne*, is, however, a common substitute for the feminine *ma*. Thus we have in Tibetan *mi-bo* 'man,' *mi-mo* 'woman'; *rta-pho* 'horse,' *rta-mo* 'mare'; *Bod-pa* 'a man of Tibet,' *Bod-mo* 'a woman of Tibet'; *tshong-pa* 'a trader (male),' *tshong-ma* 'a trader (female),' from *tshong* 'trade'; *smraba-pa* 'speaker (male),' *smraba-mo* 'speaker (female)'; *bazang-po* 'a good man,' *bazang-mo* 'a good woman,' from *bazang* 'good.' In Bahing *ta-wa* 'a son,' *ta-mi* 'a daughter'; *apo khlicha* 'dog,' *amo-khlicha* 'bitch'; *ryamni-po* 'adulterer,' *ryamni-mo* 'adultress'; *gna-wa* 'old man,' *gna-mi* 'old woman.' In Burmese *krak-pha* 'cock,' *krak-ma* 'hen'; *nwā-la* 'bull,' *nwā-ma* 'cow'; *mutsho-pho* 'widower,' *mutsho-ma* 'widow'; *ashing* 'master,' *ashing-ma* 'mistress'; *Mramma* 'a Burmese man,' *Mramma-ma* 'a Burmese woman.' In Lepcha, *hik-bu* 'cock,' *hik-mot* 'hen.' Again, in Garo *áchák-bipha* 'a dog,' *áchák-bima* 'a bitch.

In Khyeng *khlaung-pạ-hto* 'man'; *khlaung-nạ-hto* 'woman.' In Mru *kornga* 'a horse,' *kornga-ma* 'a mare.' These formations are found more or less in almost all the languages, and even where sex is not distinguished, or we are not told of such distinction, in the short grammatical sketches we possess, *pa* appears to be often extensively used as a formative, as, for instance, in Lepcha *mat-bo* 'a doer,' from *mat* 'to do'; in Mikir *kichihang-po* 'a beggar,' from *kichihang* 'to beg'; in the Thado dialect of Kuki *kelchingpa* 'a herdsman.' In Karen some nouns are formed by prefixing *pa*, as *pgha* 'old,' *pa-pgha* 'an elder'; gentile and such-like, by affixing *pho*, as *kaseupho* 'mountaineers,' from *kaseu* 'a mountain.' In Dhimal *ka*, in Magar *chü*, and in the Abor class *dak* or *do*, correspond to the adjectival *pa* or *ba* of Tibetan and other languages; thus Dhimal *minka* 'ripe,' Magar *minchü*, Abor *mindo*, Tibetan *sminpa*. In some languages a prefixed *a* is much used as a formative, as in Burmese *atsa* 'food,' from *tsa* 'to eat'; in Lepcha *achor* 'sour' from *chor* 'to be sour.' in Khyeng *amlák* 'love,' from *mlák* 'to love'; in Manipuri *asába* 'hot,' from *sába* 'heat.'

There is a good deal of resemblance between the postpositions in several languages, and in some of them the same form for the third personal pronoun is used to denote the genitive relation; thus in Bahing *wainsa á ming* 'the man his wife'; in Lushai *tien á ui* 'the friend his dog'; in Karen *pghaknyau a htwie* 'the man his dog.' The postpositions in this group are of two kinds, simple and compound, the first member of the compound being generally the sign of the genitive or dative relation, as in Kachari *ni* 'of,' *ni phra* 'from.' The two South-Indian groups have only generally simple postpositions. In the present group, as the rule, adjectives follow their substantives, and then the postpositions are affixed to the adjectives, and not to the substantives; but, in nearly all the languages, the demonstrative pronouns precede the substantives. In the two South-Indian groups, and also in all the Aryan languages of India, both the adjective and the demonstrative invariably precede the substantive. In the

present group the verb comes at the end of the sentence. In general the relative clause is denoted by a relative participle, and the construction of the sentence is, according to our notions, of an inverted character. In these respects the Tibeto-Burman agrees with the two preceding groups. Some of the languages have a negative voice, but in most of them the same separate particle of negation, *má*, is used. Interrogative sentences are also denoted by what is probably in its origin the same particle, but appears under a greater variety of forms, such as *na*, *ma*, *am*, *mo*, *mon*, *man*. But though the different members of the group resemble each other in some respects, in their grammar as well as in their vocabularies, yet the differences in other respects are very astonishing, and not easily to be accounted for on the supposition of the languages having all had a common origin. While, in many of the languages, the verb has no form to indicate any recognition of the number or person of the noun, in others, again, numerous complicated forms are employed to express the agreement of the verb with both subject and object, and these viewed in every variety of aspect, as singular, dual and plural, and in the case of dual and plural of the first person as including or excluding the persons addressed. Some of these points of difference will be referred to presently.

An interesting part of the inquiry into the non-Aryan languages always is the extent to which change of root is had recourse to for grammatical expression. Such a change will always be an exception to the general rule of fixed roots; but, in the present group, in regard to many of the languages of which we have only very meagre, if any, specimens of grammar, we must not conclude that they are wanting in exceptions to the general rule, because such exceptions are not mentioned. In many of the languages of the group of which we have anything like adequate details, we meet with such exceptions. Tibetan in particular abounds with them. The formation of the tenses in Tibetan depends, to a great extent, on certain prefixed letters; but, besides these, we have commonly, in transitive verbs, both vowel and consonant

changes of the root. For instance, in the past tense, we have generally, with the exception of the labial consonants, for the first consonant a surd; in the present, the corresponding aspirate or sonant; and, in the imperative, the corresponding aspirate. If, further, the past tense has the vowel *a*, then we have frequently *e* for the vowel of the present, and *o* for that of the imperative; thus perf. *b-kas*, pres. *h-ges*, imperat. *khos* v.t. 'to split.' If, however, the root-vowel is *i* or *u*, then it remains unchanged in all the tenses, as, for instance, past *b-kum*, pres. *h-gum*, imperat. *khum* v.t. 'to kill.' Again, intransitive verbs are usually distinguished from transitive by the aspiration or weakening of the surd of the perf. tense of the transitive verb, as the above-mentioned perf. *b-kas* v.t. 'to split'; but perf. *gas*, pres. *h-gas* v.i. 'to split'; there being no change of the initial consonant or vowel change in the intransitive form. If, however, a verb commences with a labial consonant, we have an aspirated surd for the transitive, and an unaspirated sonant for the intransitive form, as perf. *phral* v.t. 'to separate'; perf. *bral*, pres. *h-bral* v.i. 'to separate.' Burmese, on the other hand, not only in regard to labials, but throughout, forms transitives from intransitives by aspirating the initial consonant, as *kya* 'to fall down,' *khya* 'to throw down,' and so on with many others. In Bahing, again, the intransitive form has a sonant for the initial consonant, the transitive a surd, as *gikko* 'be born,' *kikko* 'beget'; *bokko* 'get up,' *pokko* 'raise up.' In some languages a modification of the pronominal suffix of the verb takes place in order to change it from the subject into the object. Thus, in Bahing, *khi-ka-mi* 'we quarrel with them,' *khi-ki-mi* 'they quarrel with us.' In Khyeng, to form the negative voice, besides the insertion of a letter, an initial surd is changed into a sonant, *sit-phá-u* 'may go,' *zit-pha-mbu* 'may not go.' But, as I have said, the few sketches of grammar we have are in general so short that we cannot expect to find in them any account of root-changes when they are merely exceptions to the ordinary rules.

But though the group itself is a very vague one, many of the languages may easily be subdivided into classes on

account of a clear resemblance in most respects; while other languages it will be convenient to consider under classes, on account of special points of resemblance. As Class I. I will distinguish the Kachari, Garo, Pani-Koch, Deori-Chutia and Tipura. It is more decidedly Indian—being well within our frontier—than most of the other classes, which are rather on and over the frontier. The languages composing this class are hardly separated from each other by more than dialectal differences. They are spread over a considerable tract of country from the Kachari in the north of Asam to the Tipura in the south part of the Chittagong district; and yet the Tipura in the south, though so far away from the Kachari, and completely isolated from it, bears the closest resemblance to it. The Kacharis form the principal part of the aboriginal population of Asam. The Garos are also an important tribe. The Pani-Koch are few in number; but if, as has been supposed, this was the original language of the great Koch tribe, then we have here the remnant of the language formerly spoken by a great part of the population of Northern Bengal. The Deori-Chutia is also spoken by a very small number; but it appears highly probable that this is the original language of the Chutias, a very important tribe in Asam. This class is of the simple type as regards the verb, which has no number or person; thus, in Kachari, *áng thángo* 'I go,' *nang thango* 'thou goest,' *bi thango* 'he goes,' *jang thango* 'we go,' etc. The principal postpositions are identical in all the languages. There is a peculiarity about the comparison of adjectives which is hardly found in the other languages, either Aryan or non-Aryan, of India, namely, that a particle of comparison follows the adjective, as in Kachari *bi-ni gedet chin* 'greater than him,' where the particle *chin* comes after the adjective *gedet* 'great.' What are called generic particles are extensively used in these languages, that is to say, no thing is numbered without some particle being added to classify the thing numbered, and such classes are very numerous, as in Kachari *mánse sá bá* 'man genus five,' *phitai thai bá* 'fruit genus five.' The first personal pronoun has a different form for the plural, as in Kachari *áng* 'I,' *jang*

'we'; in Garo *angá* 'I,' *chingá* 'we.' The plural of the other pronouns is formed by plural affixes.

As Class II. I take the Tibetan, including such dialects as Sarpa, Lhopa and Changlo. Some account of the Tibetan verb has already been given. In Tibetan, not only the adjective, but the demonstrative pronoun also, follows the substantive; a distinction may be made between 'he' and 'she,' namely, *kho-pa* 'he,' *kho-ma* 'she,' and, with a transitive verb, the agent is required to be in the instrumental case, so to call it. Class III., Gurung, Murmi, Thaksya, Newar, Pahri, Magar, in fact, all those languages of Nepal, which, like the Tibetan, are said to be of the simple type, the verb having no suffixes of number or person. Murmi, however, is but a dialect of Gurung, and Newar and Pahri are also very closely related to each other. The languages of Nepal generally have all a considerable proportion of Tibetan words, but they differ from the Tibetan, and agree with the Arakan hill languages, and, in fact, with most of the other languages of the group, in regard to other words, showing a special connexion with those distant languages, independently of the Tibetan. To give an instance or two, *li*, or with prefixes *pli*, *meli*, etc., is the numeral 'four' in most of the other languages, but it is *b-zhi* in Tibetan; or, again, *lung* 'a stone' in the other languages, but *z-do* in Tibetan. In Magar, the adjective precedes the substantive, which is an exception to the general rule; but this perhaps is owing to the influence of the Hindi, this language being full of Hindi words. Class IV. the Lepcha only. This agrees with the preceding class in having the simple structure of the verb, and differs in its use of determinative prefixes instead of affixes. In Lepcha, also, not only the adjective, but the demonstrative pronoun, as in Tibetan, follows the substantive. It has also for its nouns a dual affix *nyum*, and two plural affixes, *sang* used chiefly for human beings, *pang* for irrational objects only. It has a definite article *re* which comes after the noun, and takes *m* as the sign of the accusative relation; thus *pano re* 'the king,' acc. *pano rem*. The same suffix marks the accusative relation of the personal pronouns. There is some agreement as regards the

m suffix, as will be seen, with the next class. As Class V. may be placed the Dophla, Miri, and Abor, three languages which closely resemble each other. They are of the simple type. A characteristic of this class is that the accusative and genitive relation of a noun are expressed by suffixing a single consonant without a vowel; as, in Dophla, *no* 'thou,' *nom* 'thee,' *nog* 'of thee'; *ou* 'a house,' gen. *oug*, acc. *oum*. The plural of the pronouns has the same base as the singular; and is formed by an affixed plural sign. The plural of *no* is *no-lu*. These languages have often a prefixed vowel, which is not found in the corresponding words of the other languages; for instance, Tibetan *khyi* 'dog,' Burmese *khwe*, but Dophla *eki*, Miri *ekye*, Abor *eki*, and in many other words. Class VI., the Aka, is an independent member of the group. The vocabulary of this language, given by the Rev. N. Brown, the well-known missionary, in 1837, makes the Aka have 47 per cent. of Abor words; but this is not the case; he has evidently mistaken Aka for Dophla. The Aka proper, as shown by more recent lists of words, has but the faintest, if any, resemblance to that class, notwithstanding that the Akas are such near neighbours of the Dophlas. The connexion of the Aka is rather with the languages south of the Brahmaputra, though it cannot be classed with any of them. In the Aka, *mi* is the usual affix denoting the female sex, as *nyu* 'brother,' *nümi* 'sister'; *sau* 'son,' *sami* 'daughter'; *kissiglo* 'he-goat,' *kissimi* 'she-goat.' Class VII., the Mishmi. There are three principal tribes, the Chulikota, the Taying, and the Mijhu; and the languages, though clearly enough belonging to the same class, are much further apart than mere dialects. These languages are especially remarkable for the compound consonants at the beginning of words, many of them being the same compounds that are no longer pronounceable by the majority of the Tibetans, such as in Taying *mtho* 'body,' *mgrung* 'foot,' *mgah* 'near,' *proi* 'copper,' *khro* 'cry,' or in Mijhu *klau* 'flower,' *krep* 'laugh,' *gro* 'raise,' *glok* 'back,' *bli* 'house.' None of these words, however, appear to be Tibetan.

The classes hitherto mentioned have all the simple structure of the verb, nothing being added for number or person.

Class VIII. I will call the Dhimal alone. Here we meet with apparently the first step towards the complex structure. We have the pronoun coming after the verb; *lekhi ká* 'come I'; *lekhi ná* 'comest thou'; *lekhi wá* 'comes he,' *lekhi kyel* 'come we,' etc. Here *khi* is the sign of the present tense. The first and second personal pronouns, generally, but not always, come before as well as after the verb, as *ká lekhi ká, ná lekhi ná*, etc. Here, therefore, the last is a sort of person ending of the verb. The pronoun of the third person may come either before or after, but not both. Dhimal is further characterized by a sort of inflexion in the declension of the pronouns; thus *ká* 'I' has for dat. and acc. *kéng*, gen. *káng*, nom. plur. *kyel*. Another characteristic of Dhimal is that the demonstrative pronouns have different forms according as they refer to an animate or inanimate object; *idong* 'this' and *udong* 'that,' referring to animate, *iti* and *uti* to inanimate objects. Class IX, Kanáwari and Bunan. Here we have the person endings with little resemblance to any existing form of the pronoun; thus, in the Milchan dialect of Kanáwari, the present tense of *bi* 'go' is sing. 1. *bitu-k*, 2. *bito-n*, 3. *bit-o;* plur. 1. *bit-e*, 2. *bit-en*, 3. *bit-e*, pronominal endings which bear little resemblance to the pronouns *gos* 'I,' *kás* 'thou,' *nos* 'he,' *kishang* 'we,' *kína* 'ye,' *nogonda* 'they.' Bunan is spoken in part of Lahaul, and is the same language as the Tibarskad, one of the Kanáwari dialects. The same language thus exists in two provinces separated from each other by a considerable extent of country, in part of which pure Tibetan, and in the other part Hindi, is spoken. This is another of several instances we have in India of languages which do not alter, or alter very slightly, though spoken in different and distant parts of the country. This class has a very large per-centage of Tibetan words, and yet, as we have seen, an entirely different structure of the verb. The original pronunciation of many Tibetan words, which has been lost in Tibet proper, is often preserved more completely in Kanáwari; thus Milchan *skara*, Tibetan *skarma* pronounced *karma*, 'a star.' Milchan *kra*, Tibetan *skra* pronounced *sha*, 'hair.' Milchan *pya*, Tibetan *bya* pronounced *cha*, 'a bird.' Or in

Tibarskad *brao*, Tibetan *brabo* pronounced *tavo*, 'buckwheat.' Tibarskad *brul*, Tibetan *sbrul* pronounced *dul*, 'a snake.'

We now come to several languages which I will place together as Class X., not because it is warranted by any close resemblance of their vocabularies, but because they are all said to have a similarly complex structure of the verb. These are Kiranti, Limbu, Sunwar, Brámu, Chepang, Vayu, Kusunda. Limbu, however, is but a dialect of Kiranti, and Vayu and Chepang have several words in common. We have outline grammars of only two of the languages. To give some idea of the complex structure of a verb of this class, expressing agreement with both subject and object, I take the following specimen of the conjugation of part of the present tense of a verb in the Bahing dialect of the Kiranti:

After No. I. in the subjoined table there should come nine more forms for the second personal pronoun as subject, and nine others for the pronoun of the third person as subject. Then reversing this arrangement, we have a corresponding set of forms, the first portion of which is shown in No. II. of the table, for the pronoun of the third person as subject, and all the pronouns as objects. Then, again, there are eighteen forms for the relation of the first and second personal pronouns as subjects and objects, making in all what ought to be eighty-four forms for the number and person endings of each tense,

I.	*tá-gna*		I find (him)	*tá-gna- si*		I find them two	*tá-gna- mi*		I find them	
	tá-sa	incl.	we two find (him)	*tá-sa- si*	incl.	we two find them two	*tá-sa- mi*	incl.	we two find them	
	tá-sukn	excl.	"	*tá-sukn-si*	excl.	"	*tá-sukn-mi*	excl.	"	
	tá-ya	incl.	we find (him)	*tá-ya- si*	incl.	we find them two	*tá-ya- mi*	incl.	we find them	
	tá-ka	excl.	"	*tá-ka- si*	excl.	"	*tá-ki- mi*	excl.	"	
II.	*tá-yi*		(he) finds me	*tá-yi- si*		they two find me	*tá-yi- mi*		they find me	
	tá-so	incl.	(he) finds us two	*tá-so- si*	incl.	they two find us two	*tá-so- mi*	incl.	they find us two	
	tá-siki	excl.	"	*tá-siki- si*	excl.	"	*tá-siki- mi*	excl.	"	
	tá-so	incl.	(he) finds us	*tá-so- si*	incl.	they two find us	*tá-so- mi*	incl.	they find us	
	tá-ki	excl.	"	*tá-ki- si*	excl.	"	*tá-ki- mi*	excl.	"	

but they are not all complete, and they occasionally run into each other, as when the same pronoun is both subject and object. It will be observed from the examples above given that the pronominal of the third person, when expressed, is always the last member of the compound, whether it represents the subject or object of the verb, and that it is unchanged in form; and whether it is to be regarded as expressing the subject or object, depends upon the form of the preceding suffix. These pronominal suffixes are in most cases evidently abridgments of the full forms of the pronouns.

There are eleven conjugations, but all the changes are limited to the singular of the indicative. The participles incorporate the pronominals, just like the other parts of the verb, and are for the most part constituted by adding a formative to the tense forms; thus the present verbal participle is *tágnana* 'I finding him,' the relative *tágname* 'the one that I find.' The dual and plural suffixes of the first and second pronouns are different from those of the third pronoun and of the noun; thus, *ga* 'thou,' *gasi* 'you two,' *gani* 'you'; *wainsa* 'man,' *wainsadasi* 'two men,' *wainsada* 'men.' In the Vayu language the structure of the verb differs from that of the Bahing in this respect, that it can express the dual and plural of either the subject or the object, but not of both. If it is the case that all the languages referred to in this group have a common origin, including both those which have the elaborate conjugational arrangement of the class just mentioned, and those which have the simple structure, the mere juxtaposition of pronoun or noun and verb, we can hardly suppose that the complex system was once common to all, and that while some languages have retained it, others have so completely thrown it off as to leave not a trace behind. It seems more probable that the wild tribes who speak the languages of Class X. should have developed this system in the seclusion of the valleys or hills to which they betook themselves when they separated from the common stock. There are several other non-Aryan tribes in Nepal who speak, for the most part, dialects of Hindi which I shall not mention, with one exception, the Kuswar, which has preserved

traces of a grammar unlike that of any of the languages before mentioned in that it suffixes a possessive pronominal to the noun. In this respect, therefore, the Kuswar resembles the Altaic languages; for instance, *baba-im* 'my father,' *baba-ir* 'thy father,' *baba-ik* 'his father.' The same pronominal forms are also incorporated with the verb to express both subject and object, as *thatha-im-ik-an* 'I strike him or it.' The detached forms of the pronouns, on the other hand, are almost pure Hindi. This language, however, can hardly be classed as non-Aryan without further particulars.

The languages so far mentioned, with the exception of Class I., have been all along our northern frontier. South of the valley of Asam we meet with a number of tribes called Naga; but as this is a foreign name, it does not necessarily mean that they are allied either in race or languages; indeed, it is impossible to include them all in the same class. The Angámi, for instance, is very far removed from most of the other Naga languages. I propose to divide them into three classes. Class XI., the Namsang, etc. The Namsang is remarkable for having person endings of the verb, but no number endings, person endings being the same both for the sing. and the plural. The sign for the past tense *t* is affixed for the future *i* prefixed; for instance, for the past tense of the verb *thien* 'to put,' 1. *thien-t-ak* 'I or we did put,' 2. *thien-t-o*, 3. *thien-t-á*; for the future, 1. *i-thien-ang*, 2. *i-thien-o*, 3. *i-thien-á*. The Namsang, again, has possessive pronouns which differ both from the full personal pronouns and the verbal suffixes. In this class may also be included the Banpará and the Tablung; at least, they all three resemble each other in their vocabularies more than they do any of the other Nagas, but we have no grammars by which to judge them any further. All three, however, distinguish the sex of animals by modifications of the same affixes, the names for male and female being *pong* and *nyong*, *pang* and *hunu*, *apang* and *anyuk*, for the three languages respectively. Again, *sikau* and *sikah* are the words for 'woman' in Banpará and Tablung, and are further applied to distinguish sex, as Banpará *sikau hosa* 'daughter,' Tablung *sikah nahah* 'daughter.' Again, in Namsang and Banpará,

pa and *ma* are frequently affixed to nouns as determinatives. All three languages have modified forms, namely *ma*, *m*, and *man* respectively, of the same plural termination for the pronouns.

Class XII., the Khari, Nougong, Tengsa, and Lhota Nagas. Nougong and Tengsa are related as dialects, Khari further away, and Lhota still further. The verb in these languages is apparently of the simple type. The Nagas of this and the preceding class are all to the east of the Doyang River. Class XIII., the Angámi, etc. There is a wide difference between the Angámi and the before-mentioned Nagas. Very few words correspond. To the same class also may perhaps be referred the Arung and the Rengma. These languages are more like the Angámi than they are to the other Nagas, though the likeness is not strong, nor are they very like each other. The Angámi and the Arung have the simple structure of the verb. Of the Rengma verb I have not found any specimen. The Kutcha Naga is nearly the same as the Arung. The Nagas of this class are west of the Doyang. Most of the Naga languages have as many names given them as there are lists of words; thus the Banpará is called also Seebsaugor, Abhay Purya, and Joboka, in different lists. The Namsang is called also Jaipuria and Luckimpore, and so on with others. To this same class must also be referred at least two of what are called the hill tribes of Manipur, namely, Líyang and Marám, which are more nearly allied to the Arung Naga than to the Manipuri language. Class XIV., the Míkir, is a neighbour of the Nagas, and has many words in common with some of them, especially with the Namsang, and, like the Namsang, it has no sign for the genitive relation, which is signified solely by position, the noun in that relation coming first. The Míkir verb, however, differs entirely from the Namsang; it has no person ending, but the simple structure, as *ne cho* 'I eat,' *ali cho* 'we eat.'

To the east of the Nagas we have Class XV., the Singpho, who are comparatively recent settlers in Asam. Other settlements of them are on the hills to the east of Bhamo, and in

the western part of Yunan, where they are called Kakhyens, the Kakhyen and Singpho languages being nearly the same thing. The Singpho verb is of the simple type. The negative verb is formed by prefixing *n* to the initial consonant; *n* is also prefixed to some words as a determinative; for instance, *nlung* 'a stone,' *lung* and *long* in other languages; *ntsin* 'water,' Manipuri *ishing*. Singpho has many words in common with both Burmese and Manipuri. The principal language of our eastern frontier is Class XVI., Burmese, as Tibetan is of our northern. It can hardly be doubted that they both belong to the same group. Many of the combinations of initial consonants are the same in both languages; but the pronunciation has not altered so much in Burmese as in Tibetan. An initial *s* in Tibetan followed by another consonant often corresponds to the aspirated form of the consonant in Burmese, as Tibetan *stong* 'a thousand,' Burmese *htaung;* Tibetan *sna* 'nose,' Burmese *hna*. Tones are much used in Burmese, whereas they are but little heard in Tibetan, and only, I believe, in part of Tibet; but then Burmese has not the determinative syllables or letters of the Tibetan, for which the tones are the substitutes. The Burmese verb has no person endings, but it has a plural suffix *kra*, thus *gna thwa-thi* 'I go,' *gnado thwa-kra-thi* 'we go.' With the numerals in Burmese a great many generic particles are used.

The principal languages of Class XVII. are the Manipuri, Kuki, and Khyeng. Manipuri has many words in common, both with Burmese and Singpho, and with some of the Nagas; but, both in grammar and vocabulary, it seems to belong more decidedly to the present class. No language of this class has the sound of the Burmese *th*. Manipuri with some words, and Kuki always, show the genitive relation by the use of the abridged form of the pronoun. In Manipuri this makes a sort of double genitive, as a genitive suffix is also used. Thus Manipuri *ai-gi i-pá* 'of me my father,' *mi-gi ma-kok* 'of the man his head'; Lushai Kuki *koyma ka pá* 'I my father,' *mi a lu* 'the man his head.' In Kuki and Khyeng the verb has the signs of number and person

prefixed; thus, in Lushai, perfect of *pé* 'give,' sing. 1. *ka-pé-tá* 'I gave,' 2. *i-pé-tá*, 3. *a-pé-tá*; plural 1. *kan-pé-tá*, 2. *in-pé-tá*, 3. *an-pé-tá*; the full forms of the pronouns being *koyma* 'I,' *nungma* 'thou,' *ama* 'he,' *koymani* 'we,' etc. In Thado Kuki there is no difference between the singular and plural forms; these are: 1. *ka-pe-ta* 'I (or we) gave,' 2. *na-pe-ta*, 3. *a-pe-ta*. In Khyeng, again, sing. 1. *ka-pek-niu* 'I gave,' 2. *na-pek-niu*, 3. *na-pek-niu*; plural 1. *ma-pek-niu*, etc., the full forms of the pronouns being *kie* 'I,' *naun* 'thou,' *ayat* 'he,' *kie-me* 'we,' etc. The Khyeng has a different suffix for the dual and plural of the noun and pronoun, but the tense forms are the same for the dual as for the plural. All three languages have a negative voice formed by inserting *da* or *d* in Manipuri, *hi* in Kuki, and *n*, *m*, or *mb* in Khyeng. They all use a prefixed *a* extensively as a formative of adjectives or substantives. Manipuri is said to change the adjectival formative affix *ba* into *bi* for the feminine, but I do not find this to be the case in all the examples, nor is it clear that it ever takes place except for the purpose of harmonizing the adjectival termination with the ending of a noun in *i*. Several other languages in the neighbourhood of Manipur may also be included in this class, of which we have no grammars, from the close connexion of their vocabularies with Manipuri, such as Maring, Kupui, Tangkhul, Luhupa, Khungui, Phadang, Champhung, Kupome, and some others.

As Class XVIII. I take the Kumi, Mru, Banjogi, Shendu, Sak, and Kyau languages of the Arakan hills. They are, no doubt, very like the languages of the preceding class and the Burmese; but, on the whole, they are more like each other. They agree to a considerable extent in the non-Burmese words of their vocabularies, and in regard to words which they have in common with the Burmese; they differ principally in this respect from the Burmese, that they prefix a determinative syllable to the root, whereas the Burmese has generally the bare root only; as Burmese *le* 'air,' Kumi *a-li*, Mru *ra-li*, Banjogi *h'-li*, Shendu *t-li*, etc. Kumi and Mru are the only languages of which we have any

specimens which show the conjugation of the verb, and they have the simple type of verb, and differ, therefore, in this respect from the Kuki and Khyeng. Kumi has the typical sex-affix, as in *tchi-po* 'a son,' distinguished from *tchi-nu* 'a daughter.' In Mru we have *ungcha* 'a son,' and *ungcha-ma* 'a daughter.'

The last class to be mentioned is the Karen, Class XIX. There are eight dialects, namely, Sgau, Bghai, Red Karen, Pwo, Taru, Mopgha, Kay or Gaikho, and Toungthu. The Karen differs in some important respects from all the other classes; in fact, it is one of the most doubtful members of the group. The structure of the sentence is different, the accusative comes after the verb instead of preceding it, as in the other classes. The most remarkable distinctions of the Karen, however, are its numerous tones, five in number, which are constantly employed, and turn speaking into chanting. Yet Karen is certainly Tibeto-Burman in its vocabulary, and also in the position it assigns to the qualifying noun before the qualified. Besides its use of tones, Karen distinguishes the meaning of words by adding significant determinative words instead of unmeaning determinative syllables; thus in the Sgau dialect, it says *htwie hto* 'dog-hog' for 'dog,' *hto hoan* 'hog-fowl' for 'hog.' The verb is of the simple type, but while the pronoun of the first and second persons precedes the verb, that of the third person follows; thus *ya au* 'I eat,' *na au* 'thou eatest,' *au we* 'eats he,' *pá au* 'we eat,' *thu au*, 'ye eat,' *au we* 'eat they.' In the passive voice, besides a special suffix *tha*, the first and second pronouns are repeated after the verb, as *ya au ya tha* 'I am eaten'; *ma* prefixed makes an intransitive verb transitive. In the perfect tense *lí* is affixed, for the future *ka* prefixed. Other relations of the verb are expressed by a great number of prefixed and affixed particles, and these describe with excessive minuteness all the circumstances of the action: *a*, a form of the third personal pronoun, as before stated, expresses the genitive relation: *au* 'with' or 'from,' and *leu* 'with' or 'by,' are prepositions. Other relations are expressed by *leu* preceding and another

particle following; as *leu—aphu* 'in,' *leu—apho la* 'below.' Generic particles are very numerous.

There are some other languages which do not properly come within the subject of this paper, being neither Indian nor border-languages, but which certainly belong to the present group. This is the case as regards five of the trans-Himalayan languages, specimens of which were collected by Hodgson, namely Takpa, Gyarung, Manyak, Horpa, and Thochu, which have many words in common with the Tibetan. Another distant language is the Lísaw, spoken in parts of Yunan, which appears to be most like the Burmese; most of the numerals are almost identical with the Burmese.

The next group to be mentioned is the Khasi, which belongs to the hills between the valley of Asam and Sylhet. The Khasis, according to the last census, number only 92,070. Five dialects are given in Sir George Campbell's specimens, one of them being distinguished as the 'Khasi' proper. The dialects of the Jynteah hills are almost unintelligible to the residents of the Khasi; still all the members of the group are so much alike in construction that they must be spoken of as dialects rather than as languages with reference to each other. Tones similar to those of the last group play a very important part in distinguishing between words. The group has several important characteristics, which serve to distinguish it from all the languages hitherto mentioned. All grammatical relations are denoted by prefixes, which are often significant, and can be used as separate words. *Nong* 'an inhabitant,' 'a fellow,' forms most nouns of agency; *jing* 'a thing,' abstract nouns; as, *u-nongbám* 'an eater,' *ka-jingbám* 'food'; from *bám* 'to eat.' Again *la*, an adverb signifying 'since,' is the prefix for the past tense. The genitive relation of a noun is frequently signified by position only, when the noun in that relation comes after the noun on which it depends; as: *ka-sem massi*, the order being 'house cow,' but the meaning 'cow house'; but the sign of the genitive relation is frequently omitted where it cannot be omitted in English and other Aryan languages: as *ka-reng u-blang* 'horn goat,' but meaning 'goat's horn.' In this respect the Khasi group

differs not only from the non-Aryan languages before mentioned, but also from the Aryan and from the Chinese. Not only animate but inanimate and abstract nouns are distinguished as masculine or feminine, and both the adjective expresses agreement with its substantive and the verb with its subject in this respect. In the plural, gender is not distinguished. The personal pronouns in the Khasi dialect are: *nga* 'I,' *ngi* 'we'; *me* (m.), *pha* (f.) 'thou,' *phi* 'you'; *u* (m.) 'he,' *ka* (f.) 'she,' *ki* 'they.' The third personal pronoun plays an important part in denoting when prefixed both the gender of the substantive and the agreement of the adjective and verb therewith. It will be remembered that, in the two Southern Indian groups, the gender of the verb was signified by suffixed pronominals.

In animate objects the distinction of sex is made by the prefixed pronoun, as *u-briw* 'a man,' *ka-briw* 'a woman'; *u-hán* 'a drake,' *ka-hán* 'a duck.' Of inanimate objects the great majority no doubt are feminine; still several of the great objects of nature are masculine, as the names for 'tree,' 'mountain,' 'rock,' 'star,' and also *u-bynai* 'the moon' is masculine, while *ka-sngi* 'the sun' is feminine; also many words for smaller objects, such as for rice, sulphur, chain, bread, fruit, etc., are masculine. Abstract nouns, however, are all feminine. The following is an example of the way in which the agreement of the verb and the adjective with the substantive is expressed: *u-kynna u-babha u-la-wan* 'the good boy came.' *La* is the prefix denoting the past tense, and *babha* is the adjective 'good.' Most adjectives are formed from some other part of speech by the prefix *ba*, as in the above instance; *babha* 'good,' from the adverb *bha* 'well'; or again, as *bahok* 'just,' from *hok* 'justice.' The plural prefix *ki* is common to both genders, as *ki-sim ki-her* 'birds fly.' The usual order of words in a sentence is subject, verb, object; as *u-briw u-punih ia ka-ing* 'the man shows the house,' where *ia* is the preposition denoting the accusative relation. Another characteristic of the Khasi is that vowels are sometimes dropped to avoid a hiatus; as *nga'n shim* 'I will take,' for *nga yn shim; nga'm shim* 'I do

not take,' for *nga ym shim*. The Khasi again differs from the groups before mentioned, in having a relative pronoun which expresses the relative clause as completely as any Aryan language. This relative is *ba*, which takes the usual gender prefixes; thus: *ka-kynthei ka-ba shong ha ka-ta ka-ing* 'the woman who lives in that house,' where *ka-ba* is the relative agreeing in number and gender with *ka-kynthei* 'the woman,' and the order of the words is exactly as in the English. Thus the construction of the sentence is direct, quite different from the inverted order, as it seems to us, found in all the preceding groups. No other language, I believe, outside the Aryan and Semitic families, personifies every object as masculine or feminine. The Hottentot, indeed, is said to be something like the Khasi in this respect, but it does not make the same exhaustive division of all objects into masculine and feminine. There are other genders or classes besides the masculine and feminine.

Another group is the Tai, which includes the Ahom, Khamti, Shan, Lao, Siamese, and Tai Mow. Most of these languages are not separated by more than dialectal differences, though the group extends from the Gulf of Siam to Western Asam, over more than fifteen degrees of latitude. The Tai Mow or Chinese Shan language, however, differs a good deal from the others. This group agrees with the Khasi in regard to the position of the noun in the genitive relation; but it has no such resemblances of vocables or otherwise as will justify our placing it in the same group with the Khasi; nor has the Tai any grammatical gender like the Khasi. In Tai, also, the demonstrative pronoun follows, whereas in Khasi it precedes the noun. All the members of the Tai group are literary dialects, and their alphabets are derived from the Burmese, with the exception of the Siamese alphabet, which is more remotely connected, though doubtless, also, of Indian origin. The pronunciation, in some at least of the dialects, seems to have changed a good deal since the introduction of writing; the sound of a preceding vowel in Shan is often changed with reference to the final consonant, while in Siamese several final consonants

are pronounced in the same manner. There are some letter-changes between the different dialects; for instance, a Khamti and Shan *m* frequently corresponds to a *b* in the other dialects, a Khamti and Shan *h* to *r* in the others, and a Khamti *n* to a Shan *l* and to *d* in the others. Again, in some dialects we find the same word with the aspirated, in others with the unaspirated form of the consonant. There are five tones which play an important part in all the dialects, but, except in the Siamese, they are not expressed in writing. The relations of nouns are expressed by prepositions, with the exception of the genitive relation, for which, however, there is a preposition in Siamese; but in the other dialects it is expressed solely by the position of the noun in that relation after the noun on which it depends. The nominative and accusative also are ordinarily distinguished by collocation only, the one before, the other after the verb. There are several compounds consisting of two nouns, the latter of course being the qualifying noun, which, when literally translated into English, have a sort of poetry about them; as in Siamese *luk-mai* 'son of the tree'=fruit; *me-nám* 'mother of waters'=river; *nám-nám* 'water of udders'=milk. Generic particles are extensively used in all the dialects; adjectives follow their substantives, and there are relative pronouns. The structure of the verb is of the simple type; the signs of some tenses are prefixed, of others affixed; and the dialects do not all agree in this respect.

I now come to the last group, the Mon, etc., of which, however, Mon is the only representative among the Indian languages. Mon is also called Taleing and Peguan. Pegu was the original habitation of the Mons, but they were driven out of a great part of it by the Burmese about 100 years ago, and many of them have settled in Siam. Some affinity has been supposed to exist between the Mon and the Kolarian group, on account of the evident likeness between the first numerals and some few other words; but it is not upon such slight evidence that the groups hitherto mentioned have been formed. These have been established, not only upon the resemblances of a much greater number of words, but of

grammar also, while nothing can well be more different than Mon and Kolarian grammar. It is apparently with Kambojan and Anamese that the Mon has the nearest affinities, and considering the distance at which Mon is separated from these two languages by the intervening Tai, the resemblance between them is very remarkable, and with the Kambojan the resemblance is not confined to root-words only, but extends also to the prefixes.

Another language, apparently, on the whole, from its vocables, though we have no grammar, belonging to this group, is the Paloung. The pronunciation of words ending with *h* in Mon is said to be very fatiguing, at least to foreigners, and the Kambojan also has many words with final *h*. Not only is there a considerable resemblance of vocables, but the grammatical structure of Mon, Kambojan and Anamese is much the same. The most common relations of nouns are expressed by position only, the nominative before, the accusative after the verb, the genitive by following the noun on which it depends. Other relations are expressed by prepositions. Again, sex is distinguished by affixes, which are different for human beings and for animals. *Kon* in all three languages means a child or the young of any animal; thus Mon *kon tru* 'son,' *kon prau* 'daughter'; Kambojan *kon pros* 'son,' *kon srey* 'daughter'; Anamese *kon trai* 'son,' *kon gai* 'daughter.' In Mon, again, *cheh kmok* 'horse,' *cheh buh* 'mare'; Kambojan *seh chhmul* 'horse,' *seh nhi* 'mare.' Adjectives follow their substantives, and they are compared by a particle of comparison placed after the adjective. The verb in all three languages has the simple structure. Some particles may occasionally be used to characterize the tenses; but more "frequently there is nothing but the connexion to show the tense or mood." There is this remarkable difference, however, between the Mon and Kambojan on the one hand, and the Anamese on the other hand, that whereas the two former apparently have but little if any recourse to tones, the Anamese has six tones, which are very extensively used. The two former, however, make up for the want or little use of tones in the same way as that spoken

of with regard to several members of the Tibeto-Burman group, namely, by the use of a greater number of determinative prefixes, and especially is this the case with regard to the Mon; for instance, Mon and Kambojan *th-ngay* 'the sun or the day,' compared with Anamese *ngay;* Mon *k-dau* 'the head,' Anamese *dau;* Mon *k-to* 'the ear,' Anamese *tai.* In Kambojan, also, there are very great varieties of vowel-sounds, which serve to distinguish between many monosyllabic words, the meanings of which might otherwise have been confounded. Again, there are few derivative words in Anamese; but in Mon, at least, they are often formed by prefixes. In Mon, also, substantives are sometimes formed from verbal roots by some infix or modification of the root; as *tmlu* 'darkness,' from *klu* 'to be dark'; *kmlaut* 'a thief,' from *klaut* 'to steal.' As regards the characters in which these languages are written, those of the Mon are nearly the same as the Burmese. Anamese employs the Chinese characters, adapted to a phonetic syllabary; and the Kambojan has also a syllabary, but with characters of its own, which primarily represent consonants followed by *a* and consonants followed by *o*; signs being added to denote the numerous modifications of these two vowel-sounds.

Table of the Non-Aryan Languages of India.

Note.—Brackets refer to dialects that are very closely related; * refers to languages not distinguished on the map; † to languages beyond the circle of the Indian languages.

Dravidian.

Tamil [1]
Malayálam
Telugu
{ Canarese
{ *Badaga
Tulu
Kudagu or Coorg
Tuda
Kota
Gond dialects

{ *Mahadeo*
{ *Raj*
{ *Maria* [2]
Khond or Ku
Oraon or Dhangar
Rajmahál or Máler
Miscellaneous Dialects.
{ **Naikude*
{ **Kolami*
* *Keikádi*
* *Yerukala*
* *Gadaba*

[1] Also ancient Tamil, a very important study; and two dialects, Irula and Kuruba.

[2] Other dialects in Hunter's Dictionary, Gayeti, Rutluk, Madi. Others, again, called after the Districts in the Central Province in Sir George Campbell's specimens.

KOLARIAN.

Santáli
Mundári
Ho or Larka Kol
Bhumij
Korwa
Kharria
Juang
Kuri
Kurku
*Mehto
Savara

TIBETO-BURMAN.

I. Kachari or Bodo
*Mech
*Hojai
Garo
Pani-Koch
Deori-Chutia
Tipura[1]

II. Tibetan or Bhotia
Sarpa
Lhopa or Bhutáni
Changlo
*Twang

III. Gurung
Murmi
*Thâksya
Newar
Pahri
Magar

IV. Lepcha

V. Dophla
Miri
Abor
*Bhotia of Lo[2]

VI. Aka

VII. Mishmi dialects
Chulikota
Taying or *Digaru*
Mijhu

VIII. Dhimal

IX. Kanáwari dialects
Milchan
Tibarskad[3]
Sumchu

X. Kiranti[4]
Limbu
Sunwâr
Brâmu
Chepang
Váyu
Kusunda

XI. Naga dialects
Namsang or *Jaipuria*
Banpará or *Joboka*[5]
**Mithan*[6]
Tablung
**Mulung*

XII. Naga dialects
Khari[7]
Nougong[8]
Tengsa[9]
Lhota[10]

XIII. Naga dialects
Angámi
Rengma
Arung
Kutcha
Liyang or Koreng
Marám

XIV. Mikir

XV. Singpho[11]
Jili

XVI. Burmese[12]

XVII. Kuki dialects
Thado
Lushai
**Hallami*
Khyeng
Manipuri
Maring
*Khoibu

[1] Called Mrung in Chittagong.
[2] A different language from the Lhopa of the preceding class.
[3] Called Bunan in Lahoul.
[4] Seventeen dialects: Rodong, Rúngchenbung, Chhingtángya, Náchchereng, Wáling, Yákha, Chourásya, Kulúngya, Thulungya, Bahingya, Lohorong, Lambichhong, Bàláli, Sáng-páng, Dumi, Kháling, Dungmáli.
[5] Apparently the Seebsaugor and Abhay Purya of Sir George Campbell's specimens.
[6] In another list Muthun.
[7] Probably Campbell's Hatigarya.
[8] Probably Campbell's Deka Himong.
[9] Probably Campbell's Dop-darya.
[10] Probably Campbell's Miklai.
[11] Called Kakhyen in Yunan.
[12] Called Mugh in Chittagong, Rukheng in Arakan.

Kupui [1]
Tangkhul [2]
Luhupa
*Khungui
*Phadang
*Champhung
*Kupome
*Takaimi
*Andro and Sengmai
*Chairel
*Anal and Namfau

XVIII. { Kumi
{ *Kami
Mru
{ Banjogi or Lungkhe
{ *Pankho
Shendu or Poi
Sak
Kyau

XIX. Karen dialects
Sgau
Bghai
Red Karen
Pwo
Taru

Mopgha
Kay or *Gaikho*
Toungthu
00†Lisaw [3]
†Gyarung
†Takpa
†Manyak
†Thochu
†Horpa

KHASI.
Khasi [4]

TAI.
{ Siamese or Thai
{ Lao
{ Shan
{ *Ahom
{ Khamti
{ *Aiton
†Tai Mow or Chinese Shan

MON-ANAM.
Mon
†Kambojan
†Anamese
†Paloung

[1] Two dialects, Songbu and Puiron.
[2] Three dialects, Northern, Central, and Southern.
[3] Not classed. See page 25.
[4] Four other dialects in Campbell's specimens, Synteng, Battoa, Amwee, Lakadong.

NOTE.—Since this paper was printed, I have coloured the extra-Indian portion of the map. In this portion, besides the languages given in the table, we have, east of the Salwen River and north of the Karens, the Kui, Kho and Mu-tse languages (but not marked on the map); in Yunnan, the Kato, Lolo, Ho-nhi, and Y-kia languages (not marked); and in Sechuan, the Man-tsé; all which languages apparently belong to the Tibeto-Barman group. Again, beyond the Mekhong are the Lemet and Khmu languages, which apparently belong to the Mon-Anam group. In order, also, to make the map a complete language map of India, I have given the boundaries of the principal Aryan languages. I should add that Mr. Cust, who has helped me with the preparation of the map, is publishing it also with remarks, which will, doubtless, add to its interest, in the Geographical Mag. of Jan. 1878.

ART. II.—*A Dialogue on the Vedantic Conception of Brahma.* By PRAMADÁ DÁSA MITTRA, late Officiating Professor of Anglo-Sanskrit, Government College, Benares.

European Scholar.—Is the God of the Vedántin a conscious or an unconscious being?

Pandit.—Your question rendered into Sanskrit **वेदान्ताभिमतं ब्रह्म चेतनमचेतनं वा** would indeed startle a Vedántin, who would consider it an insult offered to his philosophy of pure spiritualism.

S. But, is not the charge of unconsciousness or virtual nihilism brought against the Vedantic notion of the Deity not only by modern European scholars, but by old Indian thinkers of an antagonistic school? These have called the Vedántins **प्रच्छन्नबौद्धाः** 'disguised nihilists.'

P. Yes, the charge has arisen from a serious error in their own way of thinking, thus leading to a misunderstanding of the very scope of the Vedánta. But there is a mixture of truth in it, and so the mistake has been shared by ancient as well as modern thinkers.

S. A profound living philosopher of our country, Herbert Spencer, has remarked that there is often a bone of truth in the grossest falsehood. Will you decompose this charge into its truth and falsehood?

P. In the first place we must consider well the meaning we attach to consciousness in general. Our sensations and the consequent mental impressions taking the form of memory and imagination, along with a comparison[1] of their similitude and dissimilitude, are the elements that enter into the composition of what we call our consciousness (*buddhi*).

[1] The function of what is called by Hamilton the Elaborative Faculty or Understanding Proper.

Western philosophers all admit that our consciousness is not possible except in relation to the so-called external objects. It is a continual flux, having for its necessary condition the objective world, that is to say, we cannot be conscious, without being cognizant of some external object or internal impression originally induced thereby.

S. Indeed, according to the Berkelian theory followed by some of the profoundest modern philosophers, our consciousness is *composed* of what are *called* external objects, but what in fact are sensations conveyed through our sensitive organism and the consequent purely mental impressions.

P. The *representative notion*[1] of the subjective self (*ahañkára*) may sometimes be absent from consciousness; for, I believe, everybody, especially in his dreams, has felt himself in a state, however transient, in which he forgot himself. Some of your Western thinkers have laid it down as an established fact that Sensation is in an inverse ratio to Perception.[2] The same might be held of the relation of these two phases of Consciousness to Reflection, by which I mean that state which refers the sensation or perception to ourselves, and is weak in proportion to the strength of the latter. An intensely vivid sensation brings us into a state of consciousness in which we are scarcely conscious of ourselves. Now it being settled that some object or other, whether sun or moon, hill or dale, jar or picture, or the mental impression induced thereby, is necessary to our consciousness, such a consciousness cannot be attributed to God contemplated apart from his relation to the world which he created, and before the creation of which he abode in his absolute self, named by the Vedántin Brahma. God contemplated in relation to the world is designated *I'śwara*—the Lord—to whom Śankaráchárya almost invariably gives the epithet *sarvajña*, or universally conscious. *I'śwara* is conscious simultaneously of the whole universe as existing in past, present, and future time, and omniscience can mean nothing but universal consciousness.

[1] See Mansel's Metaphysics, p. 364.
[2] Mansel's Metaphysics, p. 70.

S. But what is this Brahma, then?

P. Brahma is the Absolute God, not conscious of the universe, for he existed before it existed, and abides perfectly independent of all relation to it. His is not the consciousness we have discussed, since it is not determined by objects; it does not, so to speak, depend upon them for its nourishment. Brahma, therefore, is not conscious in the usual limited sense of the term. He is represented in the Upanishads as अप्राणो ह्यमनाः शुभ्रः "Without life, without mind, pure." Thus have we come to the truth we sought for in the false charge.

S. If he is not conscious in the sense we understand by that word, is it not but fair to admit that Brahma is an unconscious being?

P. Certainly not; for while the Vedántin denies this mundane transitory consciousness to the Deity, he declares unmistakeably and emphatically His (or rather that He is) Consciousness Absolute. Mark that He and His consciousness are not distinct. To distinguish them would be to postulate two deities.

S. Pardon me, Sir, when I tell you frankly that you seem to me to speak very strangely. If to distinguish between God and His consciousness would amount to the holding of two deities, might you not with equal reason say that I hold two individuals in me, by distinguishing myself and my consciousness? And certainly I am not identical with my consciousness, but it is only an attribute of mine.

P. O! you have chanced to hit upon one of the most important tenets of the Vedánta, by thus accidentally marking this difference between your permanent self and the varying modes of your consciousness *(buddhi)*. It is this permanent self partially manifested in you, but pervading all conscious beings, that is the Omnipresent Spirit. तत् त्वमसि श्वेतकेतो "O Śweta-ketu, thou art That."

S. But you have overlooked my objection to your phraseology. You identify God with His consciousness, whilst I consider it His attribute, just as my consciousness is an attribute of myself.

P. You may call your consciousness *(buddhi)* an attribute of your soul, because it varies, whilst the consciousness *(chaitanya)* of God is one and unchangeable, hence no such distinction of substance and attribute holds with him.

S. I thank you for having removed a great confusion in my thoughts. I now comprehend clearly the doctrine of Spinoza, Fichte, Hegel, and several other great philosophers of the West who maintain but One Substance, and that substance God.

P. European theologians believe the world to have been created of nothing; in other words, to be nothing in its germ. The Vedántin believes that it *was* nothing and *is* nothing apart from the only absolute Being—God. The moment that he withdraws his sustaining energy, the universe ceases to exist.

S. But what fallacy is there in holding that the Deity formed a new being in the world which, since its creation, continues, without his continuous energy, according to certain laws originally established by him?

P. Such a tenet, if it has any meaning, implies the independent existence of the world, though *originally* it was formed by his will. Now, independent being and absolute being are identical, and a belief that can ascribe to Omnipotence a power to communicate to not-being a being absolute like himself, might as easily ascribe to Him a power to reduce himself into not-being. We thus see that the infinite attributes of God must not be believed to surpass the limits of mutual compatibility. Omnipotence cannot be supposed to include power to annihilate itself, and thus oppose itself to infinite existence. Similarly we see the absurdity of supposing Omnipotence capable of calling forth another omnipotence, or an Absolute Being calling forth another absolute being. The Vedántin saw that the very conception of absolute being excludes duality. According to him, therefore, the being that is not God is not being. What is real in the phenomenal universe is the One God, and as to the multiplicity and change that are visible all around, the Vedántin is compelled to look upon them as an illusion—*máyá*. But while

the Vedánta declares that the phenomenal—the many and the changing—are not real, he confesses his perplexity in ascertaining what this seeming reality is.[1] Whilst he feels certain that God and God alone exists, he in fervent devotion flies to that mysterious and inscrutable power,[2] by which the Deity invests himself with these wondrous environments which at once manifest and hide his presence. In silent adoration he mutters 'Om' (the divine affirmative), 'Yes, Thou Art, but thy ways are beyond my ken.'

S. Let us return to the main subject of our conversation—the Consciousness of Brahma, now that we have sufficiently considered the question of absolute being which is indeed intimately connected therewith.

P. Well, Brahma is that absolute, immutable and everlasting Intelligence which sustains this ever-varying consciousness of ours. It is described as transcending the relation of subject and object, not being dependent on or determined by, the object world. What the rays and the manifold colours which they exhibit are to the sun, what the multitudinous and ever-changing waves are to the ocean, our conscious minds along with the phenomenal world exhibited therein are to that Fountain of Intelligence. It transcends our conception indeed, but on that account is not a nonentity. For the anthropomorphist, unable to realize the conception of an unembodied intelligence, might with equal reason declare that a God destitute of a material body is nothing. As the elemental deity is above the fetish; as the God[3] of infinite wisdom, power, and holiness, with an imperishable form of infinite loveliness, is above the former; as to this embodied deity the personal God of Western theology is superior; as the Vedantic conception of Iśwara is perhaps still more philosophical and refined: so above even Iśwara is the Supreme Brahma, above all conditions and relations, Pure Intelligence, Pure Bliss, Everlasting. The

[1] सदसद्भ्यामनिर्वचनीयम्।

[2] देवात्मशक्तिं स्वगुणैर्निगूढाम्। *S'wetáśwatara Upanishad.*

[3] Believed in by the Rámánujas.

mystery by which the absolute Brahma brings himself into relation to the universe as Íśwara, or the Personal Deity, is variously designated *máyá* (illusion), *śakti* (power), and *prakṛiti* (nature).[1] This inscrutable principle, when contemplated in connexion with the Deity, takes the name of Power and loses its separate identity, for God and his power cannot be conceived as distinct. But when it is thought of in connexion with the universe, it becomes distinct from God and is termed Illusion. For the universe, or the aggregate of the phenomenal, being nothing but the evanescent modes of the consciousness of living beings, has no permanent existence or substantiality. It should never, however, be forgotten, as is often done even by Pandits, that the doctrine of illusion is a confession rather than a solution of the mystery of creation. It is an interpretation only so far as it explains the fallacies of false interpretations. As Professor Ferrier says, the light of every truth is its contrasting error. So it sets itself in opposition to the *Pradhána-váda*, or theory of blind nature, held by the Sánkhyas; to the *Paramáṇa-váda*, the atomic theory, of the Naiyáyikas; to the *Vijñána-váda* and *S'únya-váda*, Absolute Idealism and Nihilism, of the respective Bauddha sects.

[1] सर्वज्ञस्येश्वरस्य आत्मभूते इत्याविद्याकल्पिते नामरूपे तत्त्वान्यत्वाभ्यामनिर्वचनीये संसारप्रपञ्चबीजभूते सर्वज्ञस्येश्वरस्य माया शक्तिः प्रकृतिरिति च श्रुतिस्मृत्योरभिलपिते। ताभ्यामन्यः सर्वज्ञ ईश्वरः "आकाशो वै नाम नामरूपयोर्निर्वहिता ते यदन्तरा तद्ब्रह्म" इति श्रुतेः। इत्यादि। *S'ankara's Commentary on the Vedánta Sútras*, vol. i. p. 454, *Bib. Ind.*

"Name and Form—the seed of the phenomenal world, *seeming* to be one with God's omniscient self, but having their origin in the absence of true knowledge, *thus inexplicable by identification* (with God) *or differentiation* (from Him), are termed in the *S'ruti* and *Smṛiti* the Illusion, Power, or Nature of the universally conscious Lord. For the *S'ruti* says, 'The void is what supports name and form. That which is distinct from these is Brahma,' etc."

"Name and form (Nature) cannot be declared identical with God, because they are unthinking, or material, *jaḍa*: nor can they be declared separate from God, for what is *kalpita*, has its origin in false knowledge, or (to reconcile a prevalent phrase with the Vedantic tenet) created out of nothing, cannot have an independent reality or manifestation."—*Govinddnanda's Gloss.*

S. I see that in Brahma the Vedántin has attempted to form a conception of the Deity freed from the slightest tincture of material ideas, but at the same time I find it difficult to believe in a Being which transcends my conception.

P. I understand your difficulty, but let me try to remove it. Just consider whether you can realize in conception the conscious souls of other men. You can not. Your belief in other souls than yourself is founded on an inference, and not on an immediate cognition; you are only cognizant of their material forms and words. Further, I ask, can you realize in conception your own self, that continues one and the same through all its varying modes of consciousness, that seeming to be changed in pleasure and pain still preserves its mysterious identity?[1] Were you to conceive yourself, you would make yourself a mode of your consciousness, and thus make the whole a part of itself, or rather the support itself, the supported. You still, however, believe in yourself as the permanent one underlying or supporting the varied succession of sensations and impressions. Thus God, though not conceivable, *must* be believed in as the Absolute Intelligence, supporting through our conscious souls the whole universe. As the material universe merges into our conscious souls, so do our conscious souls merge into that One, eternal and unfathomable Flood of Consciousness—Brahma. The relation of the external world to the animal soul, and that of the animal soul to the Lord, are remarkably summed up in the following couplet, quoted from the *S'iva-dṛishṭi*, in the Philosophy of Divine Recognition,[2] a noble specimen of Indian philosophical analysis:

घटो मदात्मना वेत्ति वेद्म्यहञ्च घटात्मना।
सदाशिवात्मना वेद्मि स वा वेत्ति मदात्मना॥

The Paṇḍit, vol. ii. p. 241.

[1] विज्ञातारमरे केन विजानीयात्

"How could one know the knower!"—*Bṛihadáraṇyaka Upanishad.*

[2] The Pratyabhijña Darśana, which bears a close affinity to the Vedánta. Both systems are at one in their main doctrines, but whilst the latter rests princi-

"The jar is conscious through myself, and I am conscious through the self of the jar. I am conscious through the self of Sadá-śiva, and He is conscious through myself." That is to say, as the existence of so-called external objects depends upon the consciousness of living creatures, which in its turn is determined by the former, so the conscious existence of living creatures depends upon the Divine consciousness, which is determined by the totality of intelligences in the conscious universe. God is the spirit conscious of the universe. Whilst an extremely limited portion, and that only of the material universe, enters into my consciousness, the whole of the conscious universe, together, of course, with the material one that hangs upon it, enters into the consciousness of God. Perhaps it would not be too bold to say that the doctrine enunciated above embodies the highest possible human attempt to form a conception of the transcendently inconceivable Divine intelligence.

S. According to this view then, we are to God what matter is to us. As matter analysed into sensations rests in ourselves, so do ourselves rest in the One Universal Self. This harmonizes with St. Paul's teaching, "In Him, we live, move, and have our being." But this Universal Self is Íśwara, who himself rests in Brahma—the Absolute, the Unconditioned. Is it not?

P. OM!

S. But does not the doctrine that holds God to be the soul of the universe subvert His personality?

P. To hold that the Divine consciousness in its objective aspect, that is to say, so far as it is related to objects, is the totality of the consciousness of living beings, no more detracts from his personality (unless finite intelligence or magnified humanity is what is meant by the term), than to hold that

pally on revelation, the former rests on reason and an analysis of our consciousness.

स्फुटतरभासमाननीलसुखादिप्रमान्वेषणद्वारेणैव पारमार्थिकप्रमातृलाभ इहोपदिश्यते।

"The knowledge of the absolute Intelligence is here taught by means of an examination into our (outward) sensations, such as that of the blue or the like, and (our inward consciousness) such as that of pleasure or the like, (both) most clearly manifest."—Paṇḍit, vol. ii. p. 238.

my own outer consciousness is composed of what is called matter takes away my personality. No more again is the Divine Person affected by the cognitions, feelings and volitions and acts of living souls, than my own self is affected by the actions and changes of matter, excepting only that part which is more intimately connected with me, viz. my organic frame.

S. According to this showing, myself, though an element in the external consciousness of God, is distinct from His absolute self. But does not the *Brahma-vádin*, or Vedantic Absolutist, hold my soul identical with God?

P. You must always remember that there are two ways of thinking and speaking of the soul, answering to the two distinct names *Paramátmá* (Supreme or Transcendental Soul), and *Jívátmá*[1] (Animal or Conscious Soul). The soul has been defined by some to be one that knows, feels, and wills. Nor is it denied that, whether happy or miserable, one feels himself one and the same. How can you reconcile the contradiction that the miserable is the same with the happy self? Either call pain and pleasure an illusion, or call yourself, *i.e.* the unchanging self, an illusion, and so they have actually done, and thus have arisen the two principal classes of thinkers, the Positivists or Phenomenalists and the Absolutists.

S. I will try to remove, by a material analogy, the queer contradiction you have made out. As my eyes and ears, though differently affected by agreeable and disagreeable sights and sounds, are not materially changed, so myself, though distinctly affected by pain and pleasure, am not changed in my real nature.

P. Well, then, these two distinct circumstances respectively point to two distinct selves. As the matter of my optic nerves is not changed under their varied affections, so the spiritual substance of my soul is not changed in spite of the modifications my outer consciousness undergoes. And it is this unchanged self (call it transcendental if you like) that is the manifestation of God. We are not indeed directly

[1] Called also *Vijñánátmá*.

conscious of it, for being the subject, we cannot make it the object of consciousness. Nevertheless, its existence is implied in the very fact of consciousness. I know it so far (and indeed that is sufficient knowledge) that *I*, the mutably conscious self, cannot exist but in and through that Immutable Self. Thus, according to the Vedánta, the Unchanging Soul is *Paramátmá* (supreme soul); and the unchanging soul *seeming* to be changed is *Jívátmá* (animal soul).[1] Inasmuch as the unchanging self seems to be changed, and the changing outer consciousness (*buddhi*) seems to be the self,[2] these two are often confounded together. The varying modes which my existence passes through are called modes of my consciousness. Entirely different as they are mutually, they all go by the name of consciousness. There must then be some common element in all these modes which leads to the application of the common name of consciousness. This element can be no other than myself. Abstracted from their differentiating features, the differing modes of consciousness are unified in *Me*. *I*, the subject, am one with pure undifferenced consciousness, purged from the ever-varying matter which lends its colour to it (as the red hybiscus flower does to the colourless crystal), and which, therefore, is not *I* the unchanged. It is true that consciousness in its human form cannot be realized, except in relation to the subject and the object, yet it is admitted by all to be much more intimately connected with the former than the latter, unless indeed both of them are absolutely identified with it.

S. A Western thinker, not a *Brahma-vádin*, has made the

[1] द्वा सुपर्णा सयुजा सखाया
समानं वृक्षं परिषस्वजाते।
तयोरन्यः पिप्पलं स्वाद्वत्-
त्यनश्नन्नन्यो ऽभिचाकशीति॥

S'wetáśwatara Upanishad, 4, 6.

"Two birds, of fair plumage, ever associated and intimate, cling to the same tree (body): Of these, the one eats the tasteful fruit (pleasure and pain); untasting, shines forth the other."

[2] बुद्धिरात्मा मनुष्याणाम् *Vishṇu Puráṇa.*

following confessions favourable to your position: "Yet amidst all these changes, the conscious subject, the personal self, continues one and unchanged. A similar distinction between the *accidental* and the *essential* must be made with regard to the internal consciousness. The matter of that consciousness is continually changing; while the form abides permanent and immutable. Emotions, thoughts, volitions, succeed one another at every moment, the self—feeling, thinking, willing—is one and the same throughout. It is not necessary to my personal existence that I should feel joy or sorrow, anger or tranquillity; for the calm man of to-day is the same as the angry man of yesterday; and he who laughs to-day may weep to-morrow. Nay, more: not only is every special experience which constitutes the matter of consciousness alien to and separable from the personality of the subject; but, etc." [1]

P. Well, then, the *I*, free from "every special experience alien to and separable from the personality of the subject," free from all earthly feelings of joy and sorrow is the *Paramátmá*—Pure and 'Essential' Consciousness—विज्ञानघन: शुद्धबुद्धमुक्तस्वभाव:.

S. But what right have you to call this pure consciousness *I* or Self, when I am never conscious of myself, except in relation to an object?

P. I do not call this pure consciousness self because I ever feel (which I do not) my mutably conscious self identified with it, but because I feel clearly enough that *I*, the subject, am never separable from consciousness, whilst every particular object is successively separated from it. And he who feels himself unable to believe in a pure consciousness has no right to believe in a God whose consciousness, as I have already said, must be believed to be independent of the object world which He created. It has been declared that consciousness is not possible except in relation to the subject and the object. Avoiding the term 'relation,' which is somewhat vague as used in respect of consciousness, the same fact may be enun-

[1] Mansel's Metaphysics, p. 359.

ciated thus: consciousness in its human form almost invariably manifests itself in two phases—the self and the not-self. The self-phase, which is essential to and inseparable from it, is characterized by unity and permanency. The not-self-phase, which is accidental and separable, is characterized by diversity and succession. This latter has distinctive and exclusive names in Sanskrit, viz. *buddhi, antaḥkaraṇa, manaḥ*. It cannot, without ambiguity, be represented in English by a single word, but the phrase 'outer consciousness' may tolerably answer to it. As consciousness, in its essential form, is identical with self, the unmodified, it is *buddhi* that is said to undergo modifications, and not consciousness proper. It *(buddhi)* is defined to be the internal sense successively assuming the forms of external objects.

S. In the beginning of our conversation, I remember you did not lay much stress upon the notion of the subject as an element of consciousness, and now, driving the object altogether to the background, you make the subject the very essence thereof. Is it not a palpable self-contradiction?

P. When I have made this remark, I have done so with reference to the 'outer consciousness,' *buddhi*, in which sense I have at the outset generally used the term consciousness. Although I have remarked that the 'representative notion' of self *(ahaṅkára)* is stronger or weaker inversely as the objective element is stronger or weaker, it must be distinctly remembered that what Dr. Mansel[1] calls the 'presented self,' *pratyagátmá*, must always continue to underlie consciousness. The mysterious something which is not-self, yet depends upon self, and, in its turn, makes self seem to depend upon it, is God's illusive power, his indirect manifestation. This consciousness again, which with far greater distinctness presents itself as self, though tinged by the mysterious not-self, is His direct manifestation. The *buddhi*, being more intimately connected with external objects than with the internal subject, is declared to be *jaḍá* or unconscious, and derives its semblance of consciousness from the conscious soul. It is

[1] Metaphysics, p. 364.

the medium between the internal subject and the external object, partaking of the character of both. The *Paramátmá* may be compared to white unreflected light pervading space, and the *Jivátmá* to the same light reflected upon various objects and presenting various hues. As the former, though visible indeed, nay the cause of universal vision, yet seems to be less clearly manifested than the latter reflected, for instance, upon a broad white wall; so the *Paramátmá*, though the manifest source of universal consciousness, yet seems manifested only when reflected upon *buddhi*, the internal material of external objects. Nay, more; as material objects, though they reflect but the colours contained in light, seem to present their own colours, so the phenomenal world, though reflecting what are mysteriously contained in the white light of pure consciousness reflected therein, seems to present its own shapes. As the many colours are inexplicably contained in the white light, without, in the least, affecting its whiteness, so the many phenomena of the world are mysteriously contained in Pure Consciousness,[1] without, in the least, affecting its purity.

S. It seems indeed as if the visible material light were created to furnish in its marvellous phenomena exact parallels to the all-wonderful manifestations of that invisible yet universally visible Spiritual Light — Brahma. But I cannot by any means reconcile this Pure and Passive Consciousness, though self-luminous and illuminating Nature, with active Omnipotence and Mercy ruling the universe.

P. I have already declared that God in relation to the universe is not pure consciousness, but is named *śabala Brahma*, *saviśesha Brahma* (conditioned or personal God), or *I'śwara* (the Lord). Whilst the field of our consciousness is extremely limited, that of *I'śwara* is infinite. Whilst our will has but a semblance of freedom, being determined by motives, which again are determined by an intricate tissue of moral and physical causes; the will of the Lord is deter-

[1] Called also *sákshin* (witness), from being presented yet unaffected, स्फुरणात् औदासीन्याच्च। *Bhámati.*

mined, in the dispensation of rewards and punishments only, by the respective actions of rational creatures in their successive states of existence. Whilst our will cannot surpass the laws of nature (or can counteract, on an extremely meagre scale, *i.e.* in our bodily movements, that of gravitation only), those laws *are* nothing but the determinate operation of His will or power. Thus whilst we are subject to *Máyá* or Nature, she is subject to Him. Whilst we are controlled by the many and changing and are scarcely conscious of our essential selves, He projects them, as it were, out of himself, and is yet unaffected in his absolute consciousness. How Nature is contained in Him, and yet is not essentially one with Him, I have repeatedly declared to be a mystery.

S. But does not the Vedantic doctrine of non-duality destroy man's moral and religious obligations?[1]

P. There is not a more pernicious mistake than such a supposition. The doctrine can scarcely have any practical bearing, pointing, as it does, to a state which transcends all relations and conditions, and is therefore above the sphere of practice. The Vedántin may earnestly labour to release himself from duality, but in the course of his endeavours, up to the last moment that he is conscious of this duality, he is but a mortal,[2] and, as such, subject to the ordinances of religion and morality. Nay, devotion to God, the Lord and

[1] The question itself is possible only under the conditions of duality, and so the answer too must be one that relates to a state of duality alone. For a man to consider whether he should act in this or that particular manner, it is necessary that he should perceive difference, and if he does perceive difference, he has no right to act in any other manner than that prescribed by the moral and religious laws ordained under the conditions of duality. If, however, through stupidity he argues himself into the commission of sin, in mistaken conformity with Vedantic non-duality, *in spite of his actual consciousness of duality*, purgatorial fires would be the inevitable consequence of such an act, *and he would feel them neither more nor less really than he was conscious of the act itself.* Thus all objections to the doctrine on the ground of morality are utterly untenable.

[2] सर्वव्यवहाराणामेव प्राक् ब्रह्मात्मविज्ञानात् सत्यत्वोपपत्तेः स्वप्नव्यवहारस्येव प्राक् बोधात्

"As before waking, all the perceptions and acts of a dream are felt as true, so before the recognition of the identity of the Divine and human soul, all perceptions and acts are properly regarded as true."—*S'ankara's Brahmasútra-bháshya*, p. 449.

Father of all, with a heart free from every stain of impurity,[1] along with the practice of the virtues of forgiveness and charity, contentment and truth, and an entire control of the senses and passions, are distinctly and emphatically declared to be the only means towards the attainment of the very right or capacity *(adhikára)* to seek the highest truth—that God is the only truth. The Vedánta is indeed not favourable to the worldly pursuits of wealth or power or fame, nor is it directly calculated (as few philosophical systems are) to foster sentiments and efforts tending to the material advancement of a nation. It is however to be remembered that the system is properly intended for the *yati* or *sannyásin*, who has passed the life of a house-holder and fulfilled the duties pertaining thereto.

S. But does not the very act of teaching that God is the only truth, being itself false, falsify the supposed truth?

P. No more is the doctrine falsified by the falsehood or unreality of the words which convey it,[2] than the words

[1] तस्मै मृदितकषायाय तमसः पारं दर्शयति भगवान् सनत्कुमारः
(passage from the *śruti*, quoted by S'ankara, *ibid.* p. 240.)

मुक्तिमिच्छसि चेत्तात विषयान् विषवत्त्यज ।
क्षमार्ज्जवदयातोषं सत्यं पीयूषवद्भज ॥

Ashṭávakra-saṃhitá, 86, 1. See also *Vedánta-sára*, in the beginning.

[2] यद्यपि स्वप्नदर्शनावस्थस्य सर्पदंशनोदकस्नानादिकार्य्यमनृतं तथापि तद्वगतिः सत्यमेव फलं प्रतिबुद्धस्यापि अबाध्यमानत्वात् ।
S'ankara's Comm. p. 449.

प्रकृतेऽपि सत्ये ब्रह्मणि मिथ्यावेदानुगतचैतन्यज्ञानसम्भवाच्च ।
Gloss. p. 450.

"Although the biting of a serpent, or bathing in water, or such like acts pertaining to the man in the state of dreaming are false, yet the fact of the consciousness itself, *i.e.* apart from the objects, is true, since it is not falsified even after waking. So as regards God, the only truth, there exists the subjective consciousness underlying the (phenomenally) false Veda (which teaches the absolute unity of God)." That is to say, the objectivity of the Veda along with that of every thing else is false, but the subjective consciousness that God is the only reality is true. This indeed might have been falsified, if consciousness itself had been denied, apart from its objective multiplicity. And this is far from being done, consciousness being held the only residuum of truth. As the objectivity of dreaming consciousness is falsified in the waking, but not its subjectivity; so the objectivity of waking consciousness itself is falsified in the Divine objectless Intelligence.

themselves are falsified by being represented by false words composed of written letters.[1] Nay the black written letters of a book, though themselves but falsely visible, inform men of things perceptible to all the senses. As, in the ordinary sense, the substance of the ink is not unreal, but its attribute of visibility; so, in the Vedantic view, the pure existence which underlies phenomena is not unreal, but the attribute of change and variety. The ink *seems* to be visible, while it is the white paper that is really so. Similarly the world *seems* to present different appearances to the senses, whilst the real manifestation belongs to Him.[2]

[1] तथाऽकारादिसत्याक्षरप्रतिपत्तिर्दृष्टा रेखानृताक्षरप्रतिपत्तेः ।
S'ankara's Brahma-sútra-bháshya, p. 451.

[2] तमेव भान्तमनुभाति सर्वं ।
तस्य भासा सर्वमिदं विभाति ॥
S'wetás'watara Upanishad.
"Him only shining, all this shines after; this universe shines through His light!"

Art. III.—*An Account of the Island of Bali.*

By R. Friederich.

[Continued from Vol. IX. n.s. p. 120.]

The Princely Families.

We have already referred briefly to the fact that all the *Xatriyan* princes, and all the present Xatriyas, trace their descent to the Deva Agung. The princes and Gustis of *Tabanan* and *Badong* are descended from Arya Damar; and, finally, the princes and Gustis of *Mengui*, *Karang-Assem*, *Boleleng* and *Lombok* derive their pedigree from *Patih* Gaja Madda. This carries us back to the time of the conquest of Bali by the Javanese of Majapahit.

An ancient connexion between Java and Bali is indicated in the *Usana Bali*. Bali was in the possession of evil spirits or giants, that is, the Balinese were not yet Hindus (comp. *Abdullah*, in the *Tijdsch. voor Neêrlands Indië*, 7, 2, p. 160, sqq.). A few Hindus from Majapahit had settled in Bali, and had a temple in *Bazuki* (so called after the Indian serpent-king *Wasukî*, who, in the Indian and Balinese mythology, accompanies Siva and plays an important part). They were oppressed, however, by the infidel princes and people. The account of the descent of the gods and the defeat of the Maya Danawa and the demons indicates the triumph of Hinduism. The *Usana Bali* does not tell us by what earthly means this religion was established, and the reason of this seems to be, (1) *that, in order to attain its full sanctity, the religion must be introduced by the gods themselves*, (2) *that it was desirable or necessary to spare the feelings of the conquered people (the original Balinese), by representing them as conquered not by men but by gods.* The *Usana Bali* is intended only for the people.

In the *Usana Java*, however, we find traces of the true conquest. It is represented, here, as taking place immediately before the crossing over of the Deva Agung, the chief of Majapahit; but at that time Bali (according to the same Usana Java) had already become a province of the kingdom

of Majapahit, and is merely subdued a second time after a revolt of the governor. The institution of castes and the Hindu religion evidently existed in Bali previously to this, as is clear also from the narrative of Abdullah ; but the revolt and the defeat of the Governor of Bali afforded an opportunity of dividing the land among the nobles of Majapahit, and the prince of Majapahit, or his son, came to reside in this island after the fall of the kingdom of Majapahit. This destruction of Majapahit was effected, according to the Javanese accounts, by Muhammadans; according to the Balinese, the kingdom and city were deserted in consequence of a disease caused by a buta (demon).

According to the Usana Java, Arya Damar and Patih Gaja Madda were sent from Majapahit in the capacity of generals against the rebellious Bali. Arya Damar conquers the north, while Patih Gaja Madda remains inactive in the south ; but, on the approach of Arya Damar, the latter portion also submits to this victorious general. The crossing over of the prince of Majapahit is caused, according to the Usana Java, by the appearance in Bali of a demoniacal king, *Mraja Danawa* (another infidel, therefore !); the latter is of the family of *Maya Danawa* in the Usana Bali, and refers to the event that forms the subject of that writing. At that time *Arya Damar* was in Majapahit, and on the receipt of the intelligence that this Raksasa Mraja Danawa is exercising his power in Bali, the prince of Majapahit himself sets out against Bali with Arya Damar and his whole army ; after defeating the Raksasa prince, who, when he can resist no longer, flies away through the air, the prince of Majapahit establishes himself in *Gelgel*. This account is obviously improbable, and was perhaps invented to conceal from the original Balinese the manner in which, and the reasons for which, the prince of Majapahit, or his son, left his kingdom to settle in Bali.[1]

What would seem nearest the truth in these accounts is

[1] The Usana Java does not give the name of the prince who became the first Deva Agung in Bali. According to other accounts, his name was Deva Agung K'tut, and this is given by Raffles and confirmed by the Balinese.

this : *Arya Damar had subdued rebellious Bali, and again compelled respect for the prince of Majapahit ; a short time afterwards the kingdom of Majapahit fell to the ground (through war or other disasters), and the surviving prince, or one of his sons, came over to peaceful Bali.* The Balinese naturally regard this arrival as an honour, and look upon the loss of Majapahit as of little moment, for they say that place (and all Java) became infested with evil spirits. The princes do not seem to have so easily forgotten the loss of their great kingdom in Java; hence their continual wars with *Blambangan*, and even in *Passuruan* (Raffles, vol. ii. p. 200, sqq., History of Java), whence, however, they finally had to withdraw. *Blambangan* (the country near *Banjuwangi*) for a long time still belonged to Bali. The wildness of this country is partly owing to the wars with the Balinese, who were unable to hold it. It is remarkable that the opposite side of Bali, *Jembrana*, is also, to a great extent, desolate ; here, as in Majapahit, the reason of this desolation is said to be that the dwelling of a king of demoniacal form made the land unsafe. But both *Jembrana* and *Blambangan* were really laid waste by the long wars between Java and Bali, and, even now, are little cultivated, more for security's sake than from fear of the demoniacal king. The longing of the Balinese to regain their lost country has shown itself in the expedition of the Bolelengers against *Banjuwangi* under the English rule. They have also attempted to gain in the East what they have lost in the West—hence the conquest of Lombok and the attack on *Sémbawa*, where they were stopped by the Dutch Government.

After the settlement of the Deva Agung in Bali at *Gelgel*, the land is divided among the chief men in the army and the court. Arya Damar received the great land of Tabanan, and became a *Patih*, first minister of the Deva Agung. The prince could not undertake anything without consulting him, and this privilege descends to his offspring, and forms the ground of the present grievances of the princes of Tabanan and Badong, who never forget this ancient privilege, and, as the Deva Agung does not keep the old promise,

no longer consider themselves bound to him. Badong, however, preserves, for political reasons, the appearance of subjection. Arya Damar also obtains the title of *Arya Kênchêng* (*Kênjêng* or *Kêngjêng* is the title for princely Javanese invested with authority, and is also given to the Resident, the Government, etc.). The number of his men is said to have been 40,000. Smaller governorships were also given to Arya Damar's brothers; to *Arya Sento*, the countries of *Pachung*, the present *Marga*, belonging formerly to *Mengui*, but now to *Tabanan;* to *Arya Beleteng*, the country of *Pinatih*, since conquered by the princes of Badong, but still a separate kingdom; to *Arya Waringin*, that of *Kapal* in the present *Mengui;* to *Arya Blog*, that of *Kabakaba* in *Mengui;* to *Arya Kapakisan*, that of *Habiansmal* in Mengui; to *Arya Binchaluka*, that of *Tangkas* in Klongkong. Besides these brothers of Arya Damar, *Arya Manguri* is mentioned as governor in Dawuh in Karang-Assem, and the three principal Wesyas, *Tan Kuber*, *Tan Kawur* and *Tan Mundur* (names, really, symbolical), also receive a domain. In the Pamendanga, a sort of history of the princes and priests, however of little value, the governorships allotted to these nobles are somewhat different, but, at any rate, this work mentions Patih Gaja Madda as governor of Mengui, a fact confirmed by all Balinese, but omitted from the Usana Java.[1] We thus see Bali, at the very outset, divided among governors; these could soon change from governors into independent princes, such as we now find. In the year 1633, according to the Dutch Envoys, the Deva Agung seems still to have been the only prince in Bali, and it is probable that he was regarded as such and had influence over the whole of Bali until about 100 years ago, when Gelgel, his ancient seat, was destroyed. The countries adjoining Klongkong, *Bangli*, *Gianyar*, and also *Boleleng*, seem to have been immediately under the Deva Agung, and were then, in course of time, given as governorships to members of his family. Here also, after the degradation of the race of the Arya Damar, were the

[1] The Usana Bali betrays partiality for the race of Arya Damar.

only remaining Xatriyas, but even these were partly expelled by the Wesyas. The history of Arya Damar's descendants is remarkable only on account of the conquest of Badong and the founding of this kingdom. The race of Patih Gaja Madda has much more influence upon the history of the whole of Bali. This chief, the second general of the princes of Majapahit, had his seat in Mengui. The palace of Mengui is one of the oldest. Abdullah (p. 163) even makes the Deva Agung reside in Mengui from the first; the information I have obtained as to this point, however, agrees with the Usana Java, where the Deva Agung has his first seat in Gelgel; proceeding subsequently to Klongkong. To Mengui belonged, besides the present country of that name, the greater portion of Badong (the smaller, eastern portion of Badong, formed the kingdom of Pinatih, which in later times was subject to Mengui); and, further, a portion of the present Gianyar, *Kramas*, and the land of *Marga*, which now belongs to Tabanan. It was thus a considerable domain, and as large, if not larger, than Tabanan. Arya Damar's brothers had, it is true, various portions of the present Mengui, but they all appear to have been speedily subjected to the power of Gaja Madda and his successors; the kingdom of *Pinatih* alone remained under the descendants of Arya Damar, but it became tributary to Mengui. The position of Bali at this period (about 250 years ago) may therefore be thus described: *Klongkong*, *Gianyar* (with the exception of *Kramas)*, *Bangli*, and *Boleleng*, belonged to the Deva Agung and to *punggawas* (governors) of his family; *Tabanan* to the descendants of Arya Dama; *Mengui* with *Badong* and parts of *Gianyar* and *Tabanan (Kramas* and *Marga)* to the descendants of Gaja Madda. *Karang-Assem* was probably still under the descendants of *Arya Manguri* (at least partially). A change in this state of affairs was caused by the princes of Mengui conquering Karang-Assem, and a Gusti of Tabanan establishing himself and his descendants in Badong, and forming a separate independent kingdom, after being for a time subject to Mengui.

Another and a more important change began about 100

years ago, in consequence of the war of Karang-Assem against Klongkong. The cause of this war was the putting to death of a prince of Karang-Assem, by command of the Deva Agung. The prince in question did penance after the manner of the Indian *yogis*; he gave himself up entirely to contemplation, and, thereby, neglected all outward worldly things so much that he grossly transgressed decorum, *e.g.* he allowed his excrement to fall where he happened to be sitting. When he was in Klongkong, he conducted himself in the same manner, and thus offended the Deva Agung and the nobles of the court of Gelgel. On his return journey, he was killed from an ambush by command of the Deva Agung. He left three sons, who immediately resolved to avenge his death. The penance performed by their murdered father rendered their power irresistible in the eyes of the Balinese; the real fact is, however, that the race of Gaja Madda, which then possessed all the extensive country of Mengui and Karang-Assem, was the most powerful in Bali. They defeated the Deva Agung and destroyed his royal seat in Gelgel. The Deva Agung retained his territory, however, and seems, from this time forward, to have fallen into the state of dependence under the Karang-Assem family in which we now find him. Peace was restored by marriages, and Klongkong was held in subjection. The wife of the Deva Agung last-deceased was a princess of Karang-Assem, and governed the whole land for him so completely that she even dared to murder another wife of her husband, a princess of Badong. From this time the decline of the power of the Deva Agung is principally to be dated. He was a conquered prince, and, although he retained his territory, and the conqueror remained in outward appearance his inferior, yet his prestige among his own people was seriously lowered. In addition to this, the princes of Kareng-Assem no longer performed feudal service in Klongkong, but simply conceded to the Deva Agung the title of *first ruler of Bali*, without paying him tribute.

This victory had yet other important consequences for the family of Karang-Assem. The conquerors of Klongkong

could without much difficulty also attack Boleleng, where dynasties had already changed several times, and which at that time was certainly in a weak state. They took this country also, and one of the brothers became king of Boleleng. At that time the most ancient dynasty of the Xatriyas had already ceased to exist in Boleleng;[1] the statements of the people of Badong asserting, that it was driven from the throne seven generations ago, retiring to Badong, where it still lives, subordinate to the ruling Wesyas, but yet of some distinction. (Its head is the Deva Made Rahi in Kutta, who has obtained the chief command of that place from the râjas of Badong.) One of the succeeding princes of Boleleng, also of Wesyan blood (being descended from Arya Beleteng in Pinatih), was *Panji;* he, however, did not hold the kingdom long. Whether he expelled the Xatriyas is not certain, nor is it known whether the family of Karang-Assem immediately succeeded him.

The last exploit of the victorious brothers of Karang-Assem was the conquest of Lombok. Here, also, one of the brothers remained as prince, keeping 5000 Balinese families with him, from whom the present Balinese population of Lombok have sprung.

In the south, the Gusti family from Tabanan had, in the mean time, subdued the whole of the western portion of Badong, namely, Pinatih: the eastern portion was conquered somewhat later.

About the same time (three generations ago) the family of the Deva Agung was also robbed of its possessions in Gianyar, and an inferior Deva *(Pungakan)*, named Deva Mangis, founded the present kingdom of Gianyar.

A hundred years later, therefore, we have the following state of affairs in Bali: (1) The *Deva Agung* in Klongkong, only in name still prince of all Bali, and with his territory reduced to Bangli and Klongkong. Bangli, however, had its own princes, who were also Xatriyas and descended from the Deva Agung, but of lower birth than the Xatriyas in

[1] This is open to doubt. In that case how can Xatriyas have ruled in Boleleng in Crawfurd's time (1812)?

Klongkong. In Gianyar the relations of the Deva Agung were conquered by a Deva of insignificant rank. (2) *The family of Gaja Madda* ruling in Mengui, Karang-Assem, Boleleng, and Lombok. Mengui, their original country, had, however, already lost a large piece of territory to the newly-arisen Badong. (3) The family of *Arya Damar* in *Tabanan* and in the newly-founded *Badong*.

Since that time there have still been quarrels without end among the eight states which we have mentioned. We say eight, for *Pahyangan* was not a separate state, but belonged formerly to Bangli, and now to Mengui, and *Jembrana* has also, always, or for a very long time, been subject to Boleleng —it was conquered twenty years ago by Badong, but retaken by Boleleng.

The most frequent wars have been between Badong and Mengui, with its allies Karang-Assem and Boleleng; and between Gianyar and Mengui, allied with Bangli. The new kingdoms of Badong and Gianyar soon became allies, although they have had a few small wars with each other, when one has been for and the other against the party of the Deva Agung. In general, they maintain friendly relations with the Deva Agung, pay him homage, and send him a few presents. To show the present condition of Bali, we will now speak of each state in particular.

1. *Klongkong*, governed by the Deva Agung, is the smallest, and is not a rich country. His men are said to number 6000. Formerly there were members of his family in Nagara, Sukawati, and Pejeng (all in the present Gianyar); the family also had Boleleng, but it was driven out thence and went to Badong. In Bangli, also, the Xatriyan family is no longer related to the Deva Agung, but down to the most recent period, the Xatriyas of Bangli were always true followers of, and paid homage to, those of Klongkong. At present, Bangli and Klongkong are bitter enemies. Gianyar, Badong, and Mengui acknowledge the authority of the Deva Agung by presents and envoys. Karang-Assem and Boleleng acknowledge him as supreme prince, but pay him no homage, and, although they act in full harmony with Klong-

kong, they do so as an entirely independent state. Towards the Dutch Government, however, they make use of the pretended power of the Deva Agung, in order to represent their acts as controlled by the Deva Agung, and to take refuge behind him. Tabanan, Bangli, and Lombok do not even acknowledge the superior rank of the Deva Agung, much less give him presents.

The name of the present Deva Agung is G'de Putra;[1] his sister, the daughter of the above-mentioned princess of Karang-Assem, is named Deva Agung Istri. The Deva Agung's mother was a Sudra-woman, but the deceased Deva Agung had no male children by noble wives, and thus the son of a Sudra-woman was obliged to succeed him.

2. *Gianyar.* This state is governed by *Deva Pahan*, a son of *Deva Mangis*, who died in October, 1847. The family is Xatriyan, but of low descent (on account of too much intermixture with Sudra blood), and is called *pungakan (pungakan* means *fallen)*. Deva Pahan's great-grandfather, named Deva Mangis, was the founder of this state. He was commander of 200 men in the *dessa* of Gianyar, and was under the Punggawas of the Deva Agung, who were governors in Nagara, Sukawati, and Pejeng, and relations of the ruling Deva Agung. By deceit, violence, and poison he gained the mastery over these punggawas, and conquered from Mengui the country of Kramas. On account of his infamous deeds, his poisoning, etc., he is said to have changed after death into a serpent, which was kept for a long time in the palace at Gianyar, but disappeared in the last few years. His success in all his undertakings was probably owing to the fact that he began in a time when Klongkong was defeated by Karang-Assem, and deprived of all power. Gianyar, however, has

[1] *G'de* means the oldest son or daughter of the same mother; among other than royal persons, and among Brahmans, the usual word for this is *Wayahan* (old); *Made* is the second (really the middle one, Sanskrit mad'ya); *Nyoman*, the third, if there be a fourth; *K'tut*, the third or fourth (really the youngest). If there are more children, the same expressions are used, but are placed before the name instead of after it. Thus we have in *Den Passar* a râja *Ngrurah K'tut*, and a *K'tut Ngrurah*, both sons of the deceased prince, the brother of Kassiman. *Putra* is prince, but ought properly to be applied only to those of purely noble birth; in this case, however, the Deva Agung is the son of a Sudra woman, but, as the only one who could succeed to the throne, he was ennobled.

submitted to the Deva Agung as the supreme ruler, and sends him numerous presents, which cause him to forget that his nearest relatives are disgracefully oppressed—for the former punggawas are still living in Gianyar, but they are under the command of a Pungakan. It thus appears that, all over Bali, noble birth is not sufficient to protect a family. Here, too, the stronger conquers, even though he be of the lowest extraction. Such a victorious family is then again elevated by noble marriages. Gianyar is stated to contain 35,000 men, but not more than half this return can be taken as true. It is one of the most fertile and best-cultivated districts of Bali.

Gianyar is allied with Badong, and acts as mediator in the disputes between this state and Klongkong. Its attitude towards Karang-Assem is neither friendly nor hostile. In the last Dutch expedition against Boleleng, Gianyar, by command of the Deva Agung, sent 5000 men to assist; they arrived too late, however, and were not the best soldiers; but, on the contrary, the refuse of the kingdom.

Gianyar has had many quarrels under the three princes bearing the name of Deva Mangis, chiefly with Bangli and Mengui, but also with other states. At the conquest of Mengui by Badong, Gianyar was allied with the latter, and received a piece of territory on the frontier, *Kadewatan*. Gianyar's friendship towards Badong is not to be relied on; hence the new campongs built by the raja Kassiman on the frontier of Badong.

3. *Bangli*. The reigning prince is *Deva G'de Putu Tangkeban*.[1] His family also is descended from the first Deva Agung in Klongkong, but in rank it stands lower than the line of the Deva Agungs. Formerly this family ruled over two states—*Bangli* and *Taman-Bali*. This close relationship was not sufficient to prevent the prince of the former state from seizing the latter and extirpating its princes. The same thing has, however, occurred to the families of Karang-Assem and of Lombok. Until about ten years ago, Bangli was

[1] *Putu* is applied to a person at whose birth the grandfather or grandmother is still living. The word *w'ka*, etc.

attached to Klongkong; the prince of Bangli, the most warlike in Bali, was commander-in-chief *(Senapati)*. Its enmity with Klongkong was brought about by the influence of the princess of Karang-Assem, who was married to the deceased Deva Agung. In its many wars with Karang-Assem, Boleleng and Gianyar, however, it lost part of its territory in the north, and lately also Pahyangan, which lies south of Bangli, and is now divided from Bangli itself by a strip of territory acquired by Gianyar. Pahyangan has been won by Boleleng and ceded by this state to the Deva Agung, who again has handed it over to the government of the prince of Mengui, his Punggawa.

Bangli no longer acknowledges the Deva Agung, and has entered into friendly relations with Tabanan and Badong, which, however, the surrounding hostile states render of little account. The war with Gianyar has recently been stopped through the influence of Badong. The country has also suffered nothing from Karang-Assem and Boleleng since the first Dutch expedition; now, however, it is in great danger from the union of these two states and of Klongkong and Mengui. The men of Bangli are the bravest in Bali, and it is only by virtue of this quality that they have been able to hold their own against so many powerful enemies. Women also bear arms in this country. There are only fifty firearms in Bangli.[1]

[1] The above, like all the rest of this Account, was written in 1848. The third expedition despatched by the Dutch Government against the hostile states in Bali in 1849 has very much altered the position of several princes. The author has thought it desirable, however, not to alter his work on this account, but to describe Bali in the state in which it was when he left it. Now that Boleleng, Karang-Assem, and Bangli are better known, the public will of course have fresh information regarding them; hitherto, however, but little that is authentic has come to the author's ears, and he therefore gives the information which he gathered, to serve as far as possible as historical data. It is well known that the prince of Bangli, the faithful ally of the Dutch Government, has now, in addition to his own country, received from the Government the state of Boleleng, to be ruled under the sovereignty of Holland; also that Karang-Assem has been given to the prince of Mataram-Lombok, who believed he had a well-founded claim to it. The authority of the Deva Agung has also been still further lessened, both because he has been compelled to acknowledge the sovereignty of Holland, and because two princes, who previously did not recognize his authority, have now become his powerful and dreaded neighbours, who will always be ready and able to hold him in check. To avoid repetition, we need here only allude to the fact that the princes hitherto reigning in Boleleng and Karang-Assem, and the still better-known Gusti Jêlanteg, have fallen in the struggle.

4. *Mengui.* The reigning prince is *Anak Agung K'tut Agung.* He murdered his elder brother, who was the first prince; the widow of the latter, *Byang Agung,* however, still has much influence. The families of Karang-Assem, Boleleng, and Lombok, are of Menguian extraction. *Patih Gaja Madda* was governor of Mengui. According to some accounts, this Patih Gaja Madda was an incarnation of Wishnu, who has thus also assumed the body of a Wesya. The story probably originated when the family had subdued nearly the whole of Bali and Lombok. Another account says that Patih Gaja Madda vanished from the earth and left no children, the house of Mengui being descended from *Ki Yasak,* who married the granddaughter of Arya Damar against the will of her father *Arya Yasan.* In ancient times Mengui included the whole of western Badong, while the eastern portion, the state of Pinatih, also acknowledged the supremacy of Mengui among the descendants of Arya Beleteng. Besides this, Kramas and Kadevatan of Gianyar and Marga, in the mountain range of Tabanan, formerly belonged to Mengui. Kramas was conquered by Gianyar, as we have seen; we shall speak of the rest in connexion with Badong. Mengui was for some time, about twelve years, under the dominion of Badong, but is now again free from that kingdom and stands as a separate governorship under Klongkong. The house of Mengui is not only of the same origin as that of Karang-Assem, but is also allied to it by a very recent marriage between the prince of Karang-Assem and a princess of Mengui. Mengui must obey blindly the orders of the Deva Agung; it is, however, hostile to Badong and Tabanan, and is nearly neutralized by its position between these two states. The small piece of territory belonging to Mengui on the sea-coast is very much coveted by Badong, which, by obtaining it, would touch the frontier of its ally Tabanan. This piece of territory, however, is strongly defended by its rocky coast, which only leaves open a small path.

The hostility which exists among the Balinese is shown by, among other things, the diversion of water; Mengui,

for instance, has dug a new bed on its territory for a river which formerly flowed into the sea in Badong, and by this means has left dry the rice-fields of Grobokkan on the borders of Badong.

5. *Karang-Assem.* The reigning prince is *Ngrurah*[1] *G'de Karang-Assem.* The family is that of Gaja Madda, and the country was conquered by Mengui more than two hundred years ago. A list of the names of the princes of Karang-Assem is given in the *Pamendanga*, a work which we have mentioned above, but nothing is stated as to their acts. In the Usana Java, the governorship of Dawuh in Karang-Assem is held by Arya Manguri; it is not certain whether that family had the whole of Karang-Assem—possibly part of it was in the possession of the Deva Agung. By the conquest of Karang-Assem by the house of Mengui, Klongkong was cut off from Boleleng, and the powerful royal family in the conquered state afterwards found it an easy matter to subdue Boleleng by itself.

No state has waged so many wars as Karang-Assem. We have spoken above of the victory over the Deva Agung and the destruction of *Gelgel.* The consequence of this was the subjugation of *Boleleng* and *Lombok*, and the family would perhaps have ended by making itself master of all Bali, Lombok, and Sêmbawa (Sêmbawa was actually attacked, but was spared through the intervention of the Dutch Government), but for its numerous civil wars. Many of the princes of Karang-Assem and of the conquered Boleleng were expelled by members of their own family. In Lombok, also, the two princes of the house of Karang-Assem were at war with each other nine years ago, with the result that the chief prince, that of Karang-Assem-Lombok, was defeated by the prince of *Mataram*, and committed suicide. Of the Karang-Assem-Lombok family two children were saved, a son and a

[1] *Ngrurah* means something that overshadows, *palindongan*, a payong, and also the vault of heaven. The princes of the Wesyan race nearly all bear this title; they overshadow and protect the land. The prince of Mengui has not this title, for his country belongs to Klongkong, and is merely entrusted to the present prince as a fief of Klongkong: *Ngrurah, Angrurah, Anglurah*, is in Java *Lurah*, a chief of the fourth rank.

daughter of the last prince, and they are now living in Karang-Assem-Bali.[1] The rest of the family, including the women, murdered each other in true Indian fashion, in order not to survive the shame of defeat. They even wished to murder also a European who had sided with them, in order to go to heaven (Svarga) all together. This method "of quitting life by the members of the family murdering each other," is also regarded in Bali as a *Bela*, and here also the Indian meaning of the word *wela* ("sudden and easy death," see above) is applicable. Since the fall of Karang-Assem-Lombok, the princes of Karang-Assem-Bali, of Boleleng, and the Deva Agung, who is independent of them, have been enemies of Lombok, and do not acknowledge each other as lawful rulers. The prince of Lombok, which is also called *Selaparang*, is *Ngrurah K'tut Karang-Assem*.

Karang-Assem is the most mountainous country of Bali, and grows little rice, but the dense population is very skilful in manual work, especially in wood-carving, whereby they gain their livelihood. According to the statements of the Balinese it contains 50,000 men able to bear arms.

6. *Boleleng*. The prince is *Ngruruh Made Karang-Assem*. The family comes from Karang-Assem, and thus is originally descended from Mengui and Patih Gaja Madda. The present prince is a brother of the prince of Karang-Assem. Many dynasties have ruled in Boleleng. Seven generations ago the Xatriyan princes of Boleleng, relations of the Deva Agung, were expelled by a Wesyan family; to the latter belonged Ngrurah Panji, a descendant of Arya Beleteng. The surviving Xatriyas of Boleleng now live in Badong. Boleleng was finally conquered four or five generations ago by Karang-Assem, but this did not put a stop to the wars, for the members of the Karang-Assem family could not agree together. The most profound peace reigns now, since two brothers have filled the thrones of Karang-Assem and Boleleng. According to Balinese statements, Boleleng has but

[1] Perhaps these sole descendants have now been killed by the prince of Mataram-Lombok; at all events he was formerly in constant dread of these lawful heirs of Lombok.

12,000 men capable of bearing arms; perhaps so few are returned in order to represent its conquest by the Government as of little importance.

The well-known *Gusti Jelantêg* is a cousin of the prince; his father was murdered by the late prince; yet the son now reigns, whilst the lawful king is but a shadow.

7. *Tabanan.* Prince[1] *Ratu Ngurah Agung.* The family is that of *Arya Damar*, which is said to have remained pure, although here this is at any rate improbable, and in Badong is untrue. Tabanan does not engage in many wars; it has suffered defeat a few times from Boleleng, but has never been entirely conquered. In the war with Mengui, in which the whole of that state was conquered by Badong and its allies Gianyar and Tabanan, Tabanan received the mountain-district of Marga. The more recent quarrels with Mengui are of no importance and never result in anything. The men of Tabanan understand the art of war much less than the other Balinese. Two men of Tabanan are calculated to be no more than a match for one of Mengui, and the people of Badong add to this that one man of Badong is equal to two of Mengui.[2] The men able to bear arms are stated to be 100,000 in number(?). Under the prince of Tabanan stands that of *Kediri*, a relation of the former, ruling over a tolerably large territory.

Another Punggawa of Tabanan is the prince of the Marga already mentioned; the latter is not a Wesya, but a Sudra. His ancestor was a seller of palm-wine (tuak), who managed to gain the favour of the prince of Mengui, and by him was made Punggawa. When the territory was transferred from Mengui to Tabanan, the prince of Marga retained his position. (His district grows most of the coffee in Bali.) This instance is the only one which has come to my knowledge of a Sudra prince, but it indicates the decay of the institution of caste. One often hears the nobles

[1] The title of *ratu is always used in addressing* princes, but it is only used before the name in speaking of especially distinguished princes. The raja of Tabanan has lately adopted it, and also *Sagung-Adi* in Pam'chuttan.

[2] Recent experience during the third Dutch expedition does not confirm this assertion, Badong having, as is well known, been defeated.

say that Bali must go to the bad, now that the Sudras or children of Sudra mothers become kings. Compare *Deva Agung, raja Pam'chuttan.*

8. *Badong.* The three princes who together rule this State are (1) *Ngrurah G'de Pam'chuttan*, (2) *Made Ngrurah* in *Den Passar*, and (3) *Ngrurah G'de (Kassiman)*. This State has been formed gradually. The western portion formerly belonged to Mengui, and the eastern, the state of Pinatih, to the descendants of Arya Beleteng, who acknowledged the supremacy of Mengui. Pinatih lies to the eastward of Kassiman, from the frontier of Gianyar to Tanjang, opposite Serangan (at the place where the roadstead is on the eastern side). It comprises Gunung Rata, Sanor, Taman Intaran, Soong, and the island of Serangan, and is a very fertile district. The poorer western portion with Grobokkan, Legian, Kutta, Tuban, Jembaran, and the southern corner of Bali (the point of the table-land called by the Balinese *bukit*, the mountain-range), were immediately under Mengui, to which state also belonged the *P'kén Badong*, a much-frequented place of trade. The founder of the state of Badong was a Gusti of the royal house of Tabanan. In a manuscript which was lent to me, and in which a brief enumeration of the names and marriages of the princes of Badong was written at the end of another work, he was called *Gusti Ngrurah Bola;* he had settled in Tabanan in the campong of *Buahan (Buah* and *Jambe* mean the betel-nut, pinang), and is therefore called *Anak agung ring Buahan bumi Tabanan* (the prince in or of Buahan in the land of Tabanan); he was the younger son, and sought for a place. From him to the raja Kassiman, who now has the supreme government, there are ten generations, but until we come to the great-grandfather of this man, their history is little more than a list of names).[1] He went from Tabanan to the P'ken Badong, and

[1] The date of a war with Sidêman (1582, corresponding with 1660 A.D.) is found in the manuscript of the Wriga Garga, which was lent to me; in that year the men of Karang-Assem (Sideman) with their allies, Mengui, etc., had attacked and invested Badong, but had not conquered it. This is the only historical fact chronologically determined which came to my knowledge in Bali. It appears to have occurred in the time of Gusti Nyoman T'geh.

lived there in the house of Hi Sedahan, a Sudra (the name *S'dah* means *sirih;* this name renders the matter somewhat open to suspicion; was it necessary exactly that the pinang (bush) should come to the sirih?) He thus had no palace, nor does he seem to have had a governorship, nor a fixed residence in Badong, for his son or grandson again comes from Buahan to Badong. His sister married the Gusti Agung, the prince of Mengui, but left no children. The reason of his departure is said to be that he went to seek a governorship in Mengui, an object which his son or grandson seems for the first time to have attained.

2. *Anak Agung K'tut Mandesa.* This prince, the son or grandson of Ngrurah Bola, went from Buahan, in Tabanan, to the Gunung Batur, the mountain which vomits fire, on which Dewi Danu or Gangga is worshipped. This was evidently a pilgrimage; he did penance on the sacred mountain, in order to obtain earthly power. Thence he came to Badong and lived in the house of the *M'kel* (*B'kel*) *Tinggi,* to the south of the place of cremation of the present Pam'chuttan, in the dessa of *T'gal.* His surname, *Mandesa,* is said to have been given him because he resided at first in the house of a mandesa (it is possible that he himself was nothing more than a *mandesa,* a campong-chief). With the aid of the M'kel Tinggi he soon managed to gain a large number of followers, the result of his penances, and became a Punggawa of Mengui.

3. *Anak Agung Pededekan,* son of the last mentioned; he also appears to have been a Punggawa.

4. The three sons of the last are *Gusti Wayahan T'geh, Gusti Nyoman T'geh* and *Gusti K'tut K'di.* The second, *Gusti Nyoman T'geh,* is the ancestor of the succeeding princes, and increased the power of the house. He married a woman of noble family (*prami*), of *Buahan.* He was brave and cunning, and had a body of picked troops. One of his wife's sisters was married at Klongkong to the Dalem (Deva Agung), and died as a Satia; and the other married in Mengui the Gusti Agung, and became the ancestress of all the Gusti Agungs (princes) of Mengui. These noble alliances

and his personal qualities added to his influence, and he seems to have possessed the whole of ancient Badong from *Abian-Timbul* to *Glogor*, *Pam'chuttan*, and *Kassiman*. It is not certain when the wars with Mengui began, but probably he and his son, and grandson after him, were Punggawas of that state.

5. *Gusti Ngrurah Jambe Mihik* (he is named Jambe, because his mother was from Buahan or Jambe, in Tabanan).

6. The two sons of the last mentioned, by one mother, are *Anak Agung G'de Galogor* and *Anak Agung T'las ring batu Krotok*. Their mother was from *Panataran*, a place in the present Pam'chuttan; the *Aryas Panataran* were at that time still Wesyas, but afterwards they were degraded to Sudras. His wife was also from Panataran, and he seems to have founded Pam'chuttan, or to have made it his residence. *Pam'chuttan* is derived from *p'chut*, an ox-whip; the descent of the race of Pam'chuttan from an ox-driver is found in Abdullah (Tijdschrift, 7, 2, p. 166 *sqq.*). It is admitted in Badong that the wife of one of the ancestors was of humble origin, the daughter of an ox-driver, but it does not appear that the wife of Anak Agung T'las ring batu Krotok was of such low birth; had she been so, her son Ngrurah Sakti Pam'chuttan would not have attained such great distinction and power.

At this time there were princes' capitals in *T'gal;* this is the most ancient, and was founded by the second prince. T'gal lies to the south of Pam'chuttan—the principal family, of course, resided here; thence was descended the family in *P'ken Badong*, which had palaces both here and in *Xatriya*, north of Den Passar. *Galogor*, to the north of Pam'chuttan, was also a capital, founded by the elder brother of Anak Agung T'las ring batu Krotok; the family still exists, and has probably been spared on account of its near relationship with the line of Pam'chuttan. The descendants became Punggawas of Pam'chuttan, and afterwards of Den Passar.

Pam'chuttan, finally, the capital of Anak Agung T'las ring

batu Krotok, was at that time the seat of the younger line, which, however, was soon to unite the whole of Badong.

7. The sons of *Anak Agung T'las ring batu Krotok* are called *putras*, princes. They are: (*a*) *Anak Agung ring Pam'chuttan*, also called *Ngrurah Sakti Pam'chuttan*, (*b*) *Gusti Made T'gal*, (*c*) *Gusti K'tut T'labah*. Of the last two nothing is known. The first is he who founded the power of Pam'chuttan. He had obtained that great power by means of a creese pussaka, called *singha*—thence his name *Sakti* (supernatural power). He subjugated the most ancient capital of the princes of Badong in T'gal, and waged successful wars against Mengui, from which he wrested the territory from the present frontier of Mengui to the point of the table-land. He appears to have been the first who was regarded in Badong as an independent prince. He had five hundred wives; the principal ones (*prami*) were from *Tangkeban* (*Bangli*, thus an intermixture with Xatriyas), *Galogor*, and *Mengui*. From this prince are descended eight hundred Gusti Pam'chuttan, who, on account of their near relationship, are regarded as the support and strength of the land. But where brother is ready to fight against brother, such a strength is imaginary. These eight hundred Gustis have a common sanctuary in Pam'chuttan, where they must appear once a month, and in case of absence have to pay a penalty.

Besides Pam'chuttan, the kingdom of the Jambes also existed at that time in P'ken Badong and Xatriya (the last being merely a country residence of the prince). They also gained distinction by subduing the kingdom of Pinatih, the eastern portion of Badong. They were still of importance at that period, and really of nobler birth than the princes of Pam'chuttan. Galogor had transferred itself to Pam'chuttan as Punggawa.

Ngrurah Sakti's principal sons were:

8. *(a.) Ngrurah G'de Pam'chuttan, devata di Ukiran* (who died in Ukiran); from him are descended the present princes of Pam'chuttan, of whom we shall speak hereafter. *(b.)*

Ngrurah Mayun, in the palace of *Mayun*[1] on the opposite side of the river to the east of Kassiman. This palace no longer exists; all the materials of which it was built have been taken to Den Passar. *(c.) Ngrurah Kaleran*, in the palace of Kaleran; to the north of Pam'chuttan, which position is also indicated by the name *kaleran* (northern). Little is recorded of these princes; of course they, too, had wars with Mengui and other states, but they have done no prominent acts, and are overshadowed by the fame of their father and their descendants. Pam'chuttan remained and still remains the chief seat of the family; the prince of Pam'chuttan alone can obtain the *Abis'eka*, that is, can be anointed as prince of the whole realm.

9. The most remarkable of the descendants of the three sons of Ngrurah Sakti was *Ngrurah Made Pam'chuttan*, the son of *Ngrurah Kaleran*. This chief married the daughter of Ngrurah Mayun, thereby uniting two portions of the possessions of the Pam'chuttan family, and founded the palace of Kassiman. Not content with this, he attacked the Jambes in P'ken Badong and Xatriya, and conquered their territory after a severe struggle. He was supported by Pam'chuttan and Gianyar, whilst the Jambes received aid from Mengui. Great must have been the slaughter in the palace of P'ken Badong—it is spoken of with terror to this day. The fate is also lamented of the murdered Raja Jambe, who, the people say, was entirely blameless, and had given no cause for the war. He had his revenge, however, upon his conqueror, according to the belief of the Balinese, for he was born again in the family of his foe, as his grandson, and the one of noblest birth, a circumstance which was an omen of great misfortune to that family. The conqueror began to build the great palace of Den Passar, but died before it was half finished; he had already taken up his residence, however, in the new palace, and in him began the line of the princes of Den Passar: the palace in Kassiman was still inhabited after-

[1] *Mayun* is the same as *Made*, "the middle or second son (or daughter)." This name now no longer exists in Badong; the second prince in the family of Pam'chuttan is called *Made*.

wards by his wife from Mayun, and was finally given up to his second son (according to birth), the still living Raja Kassiman. This prince, for the sake of distinction, is called *devata di made*, "died in the middle" (*made*—the middle—is here Den Passar,[1] which, both from the rank of its prince and from its situation, comes between Pam'chuttan and Kassiman). His numerous quarrels with Mengui and nearly all Bali have been without result. Even Tabanan has once fought against him, at the desire of the Deva Agung, and, to save appearances, burnt a single campong; in reality, however, Tabanan and Gianyar have always remained friendly to Badong, but they were obliged for political reasons to assume the appearance of hostility against their ally. Badong has neither gained nor lost territory under his rule, while it has become an independent state. The quarrels with the other states were caused chiefly by the aggressions of the Jambes.

10. The sons of this prince, besides many of lower birth, were: (*a*) *Ngrurah Made Pam'chuttan* in Den Passar, (*b*) *Ngrurah Kassiman* in Kassiman, *(c) Ngrurah Jambe*, who lives near Den Passar. All three are by different mothers; the first is by a mother from Pam'chuttan, daughter of the *Devata di Ukiran (Ngr. G'de Pam'chuttan)*, and a princess of Tabanan. This prince was younger than the prince of Kassiman, but as he was born of a Raja-woman he took the highest rank among the sons. *Kassiman*, the old prince who still lives, is the son of a Gusti-woman of Pam'chuttan. *Ngrurah Jambe* is the son of the daughter of the last prince of Xatriya, who was forced to marry the conqueror and murderer of her father. By birth he would be more noble than Kassiman, and equal to Pam'chuttan, but the descendants of a conquered prince can never again acquire rank in Bali. His noble birth is acknowledged, but he can make no claim to the throne.

The prince of Den Passar, called after his death *devata di*

[1] *Den Passar* means, north of the Passar, or, still better, on the further side of the Passar; thus we have also *Den Bukit*, "on the further side of the mountains," as another name for Boleleng.

Xatriya, was an ally of Gianyar and Tabanan. These three began a fresh war against Mengui, which was carried on more by artifice than by force of arms; the Punggawa of Marga, for instance, who at that time was subject to Mengui, being induced to surrender to Tabanan. For fear that he would lose all his territory in this way, the prince of Mengui gave his land in fief to the prince of Den Passar, and remained in possession of Mengui as Punggawa of Badong; he only lost Marga to Tabanan, and Kadewatan, a small piece of territory on the frontier, to Gianyar. After this arrangement, the four southern states were allied together against Karang-Assem and Boleleng, the old enemies of Badong and Tabanan, whilst Klongkong remained neutral. This state of affairs continued until shortly after the death of the prince of Den Passar, which took place in 1829.

The prince of Den Passar continued the building of the palace at that place, but did not finish it; we see it now in the state in which he left it. Most of the building materials had to be found by the conquered state of Mengui, where timber was obtained from the mountains, this article being very scarce in Badong. He had several noble wives, but his only son of noble birth, Ngrurah G'de Putra, died a short time before his father. This was the one already mentioned, who was considered to be the last râja Jambe born again, which belief his own father shared. He was regarded as certain to bring misfortune upon the family, and it would seem that he did not die a natural death. In the compact with Mengui, the prince of that land had declared himself a vassal of Ngrurah Made Pam'chuttan and his son Ngrurah G'de Putra. The death of both without a previous renewal of the compact, enabled Mengui to regard itself as discharged from its obligations towards Badong, and it soon, in fact, withdrew from them.

After the death of Ngrurah Made Pam'chuttan, Kassiman was the only prince of importance of the family of Den Passar, and he thus gained the supremacy in Den Passar and Kassiman. During his brother's lifetime these two nearly came to blows; Kassiman had already placed his

country in a state of defence, but this civil war was prevented by the intervention of Ngrurah G'de Pam'chuttan, the then prince of Pam'chuttan.

The eldest surviving son of Ngrurah Made Pam'chuttan was *Ngrurah G'de Oka*. He would have become prince of Den Passar, but he would not acknowledge the supremacy of Kassiman. Kassiman, in conjunction with the prince of Pam'chuttan, compelled him, however, to leave the country, and banished him to Tabanan. This did not prevent him from acting against Kassiman. From Tabanan he went to Mengui, and, both here and in Bangli, gained friends who were willing to support him. To strengthen his party still further, he released Mengui from its vassalage to Badong, under the pretext of being his father's heir, and gave it to the Deva Agung. The latter hastened to make use of this gift, and was able to do so without scruple, because the prince of Mengui had only sworn allegiance in the contract with Badong to the deceased princes Ngrurah Made Pam'chuttan and his son Ngrurah G'de Putra. The Deva Agung then commanded that Ngrurah G'de Oka should be received again in Badong, and this command was obeyed, for this prince had made his appearance with a numerous army from Mengui and Bangli. Ngrurah G'de Oka afterwards carried off Kassiman's only daughter, and took her to wife. Old Kassiman again made use of this to confirm his power over Den Passar: he was now in fact the prince's father. Not long after this marriage, however, Ngrurah G'de Oka died also. The sudden deaths of this prince, his brother, and his father leads us to suspect unnatural means, but I cannot assert, nor would I willingly believe, that they were applied by Kassiman. This old man, it is true, took the best advantage of circumstances, not only in Den Passar, but also in Pam'chuttan, of which we are about to speak. The present prince of Den Passar is Ngrurah Made, who, against his will, acknowledges old prince Kassiman as supreme prince in Badong, but, nevertheless, is independent and endeavouring to increase his power.

Pam'chuttan, since the time of Ngrurah Sakti, has been

the chief seat of princes in Badong. The family of Den Passar, however, has, by its wars, acquired greater fame, and under Kassiman's father and brother has, in fact, held the supreme authority, notwithstanding the nominally higher rank of the prince of Pam'chuttan. We have seen above, that the eldest son of Ngrurah Sakti Pam'chuttan took up his residence in Pam'chuttan. His name was (8) *Ngrurah G'de Pam'chuttan devata di Ukiran* (Ukiran is a place in Pam'chuttan). He was succeeded by his son (9) *Ngrurah G'de Pam'chuttan devata di Munchuk;* both were always allied with their more famous relations in Den Passar, and this friendship was maintained by marriages. The last prince of noble birth was (10) *Ngrurah G'de* Pam'chuttan *devata di g'dong;* he was anointed,[1] and played an important part in the wars of Kassiman's father and brother. By command of this prince and Kassiman's brother, his cousin *Anak Agung Lanang* crossed the sea with an army to *Jembrana*, and conquered this country, which belonged to Boleleng. Anak Agung Lanang went thither because the prince of Den Passar wished to banish him from Badong. This fact also shows the supremacy of Den Passar at that time. Jembrana was soon lost again, however, and subsequently (11) *Anak Agung Lanang* (about 1830), after the death of Ngrurah G'de Pam'chuttan, who left no sons, became prince of Pam'chuttan. He was not anointed, but yet enjoyed greater renown than his son, the present prince. He had no sons of noble birth; he only had by a Gundik (concubine) the two sons now called (12) *Ngrurah G'de Pam'chuttan* and *Ngrurah Made Pam'chuttan.* These, during their father's lifetime, were his *Parakans*, who carried after him his sirih-box, etc. After the death of Anak Agung Lanang, a great portion of the Punggawas of Pam'chuttan would not acknowledge his son as prince, on account of his low birth. Kassiman, however, who in the mean time had also ob-

[1] The anointing of a prince, *Abis'eka* (Sans.), is performed by the priests (the Guru lokas). In Badong it only takes place at Pam'chuttan. In order to be anointed, the prince must be both of noble birth and instructed in all religious duties. The prince of Pam'chuttan referred to in the text was a Resi; he had attained the position of a saint by penances (maveda).

tained the supreme power in Den Passar, supported the new prince. Some Punggawas (*e.g.* Deva Made Rahi, in Kutta) submitted, and a Gusti of Legian fled the country and took refuge in Gianyar. Kassiman then established the new prince in the ancestral palace of Pam'chuttan, and his authority, by marrying him to the daughters of Ngrurah G'de Pam'chuttan, the cousin and predecessor of his father. These women are the principal surviving members of the family, and their illustrious birth enhances that of the prince, who is himself, as it were, his wife's inferior. His principal wife's name is *Sagung*[1] *Adi*, another is called *Sagung Made*, and a third *Sagung Oka*. Sagung Adi has now assumed the name of *Ratu*, which we have also seen was done by the prince of Tabanan.

Kassiman's intervention in the affairs of Pam'chuttan gave him the supreme authority in this part of Badong also. He is regarded as the father of the princes of Den Passar and Pam'chuttan, and uses circumstances very cleverly to keep those princes in dependence.

The prince of *Den Passar*, *Made Ngrurah*, and his brothers *K'tut Ngrurah* and *Ngrurah K'tut*, were all born of mothers of low extraction, and had they a brother of higher birth, would not have the least claim to rule. Besides this, K'tut Ngrurah is in opposition to Made Ngrurah, and asserts that he has a better claim than the latter. He has several of the Punggawas on his side, and Made Ngrurah is therefore obliged to invoke the aid of his uncle Kassiman to maintain his position. Kassiman, however, it would seem, does not trust Made Ngrurah, who has inherited much of his father's ambitious character: he, therefore, does all he can to uphold the power of Pam'chuttan, and has enriched the prince of that country and invested him with a certain renown. The prince of Pam'chuttan, therefore, dares not dispute Kassiman's authority; he is of low birth and a peaceful disposition, and

[1] *Sagung* means a princess, born of a princely father and mother. *Sayu*, one whose mother was only a Gusti-woman. *Sagung* is derived from *agung*, great; *Sayu* from *ayu*, good, which we have also found to be a name for the female Brahmans (*Idayu*).

would also have to fear the house of Den Passar, which considers itself raised above so low a birth by the deeds of its father and grandfather. The prince of Pam'chuttan has not the abis'eka; although he is a man of about forty-five, he is not yet sufficiently instructed in his duties and in religion; he has performed his duties to the Pitaras, having, with all due ceremony, burnt his father, and built a new domestic temple, which was finished a year ago; yet it appears that he will not receive the abis'eka during Kassiman's lifetime, and, in the event of his death, this would also, perhaps, be prevented by the opposition of Den Passar. The prince of Den Passar has not fulfilled his duties towards his ancestors; his father and brother as well as other chief members of his family are still unburnt, and are preserved in the palace of Den Passar. On this account Made Ngrurah does not reside in the palace.

This cremation must from the rank of the deceased be very splendid; the prince of Den Passar, however, has not the means to do it, and, although apparently, the whole population of Badong works for him, this produces very little visible result. He has to complete the palace which his father left unfinished, and in which much work has still to be done, and further to improve the roads of his country, which have fallen into a very bad state of repair since the death of his father, the last prince of Pam'chuttan who had the abis'eka. And, finally, he cannot easily raise the funds for a great cremation, and is opposed in his undertakings by K'tut Ngrurah, and, in secret, by Kassiman. In Den Passar also, therefore, it is probable that the position of affairs will remain unchanged till Kassiman's death. Yet another reason against the cremation of the late prince of Den Passar and his son G'de Putra appears to be the above-mentioned superstition, that prince Jambe has been born again in the family of Den Passar in the person of G'de Putra. This second birth indicates misfortune for the family, which fears either that that prince will be born a third time, or that the curse which seems to attach to the family prevents it from performing works pleasing to the gods.

GENEALOGICAL TABLE OF THE PRINCES OF BADONG.

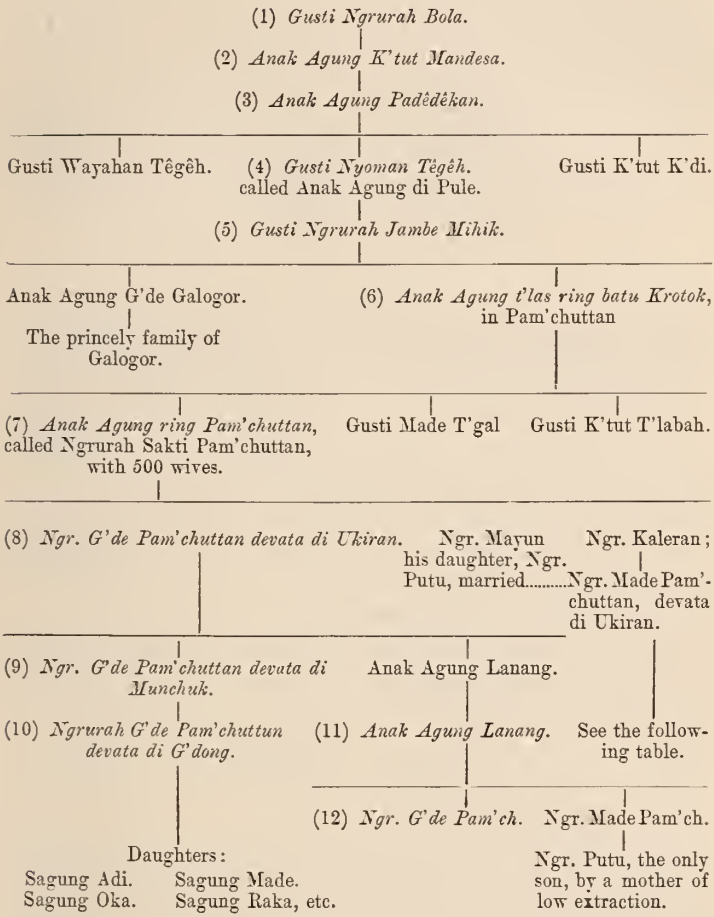

TABLE OF THE FAMILY OF KALERAN—DEN PASSAR.

(1) *Ngrurah Kaleran.*

(2) *Ngr. Made Pam'ch.* Married to Ngr. Putu Mayun (devata di Made).	Anak Agung Rahi. In Kaleran Kawan. From whom is descended the family of Kaleran Kawan and Kutta. The present prince's name is also Anak Agung Rahi.	Gusti alit Pam'ch. In Kaleran Kangiman. From whom is descended the family in Kaleran Kangiman. The present prince's name is also Gusti alit Pam'chuttan.	Gusti Ngr. K'tut. In J ro T'gal. The present prince's name is also Gusti Ngrurah T'gas.

All these are Punggawas of Den Passar.

(3) *Ngr. Made Pam'chuttan devata di Xatriya.* Mother of Pam'chuttan, wife of Pam'chuttan, and of Tabanan extraction.	Ngr. Kassiman, now named Ngr. G'de, ruler of Badong. Mother, a Gusti woman; wife, Sagung Raka.	Ngr. Jambe, mother of Xatriya, wife of Pam'chuttan. Anak Agung Alit G'de.

Ngr. G'de Putra + Ngr. G'de Oka. + (4) *Made Ngrurah.* K'tut Ngr. Ngr. K'tut, probable successor in Kassiman.

Other brothers of Kassiman are:

Ngr. G'de Dangin. — An. Ag. Alit Griha.

Devata Anak Agung Dauh, wife of Pam', became Bela. — An. Ag. Rahi (in Belaluan). — Ngrurah Kajanan.

+ Devata Banyar. — An. Ag. Put. Merangi and An. Ag. Raka.

An. Ag. Raka pupuan Ugung. + An. Ag. Alit Raka.

All these are by mothers of low caste; the family of Belaluan has again raised itself in rank by means of noble marriages. The others, after one more intermixture with Sudran blood, will sink into the position of ordinary Gustis.

FURTHER REMARKS ON THE CASTES.

The *Dewas*, *Gustis*, and *Idas* are much too numerous in Bali to maintain their dignity; they, and especially the first two classes, are too proud to gain their livelihood by work,

and prefer unjust privileges. They rob the people without limit; they are the cause of the plundering of ships, and of the extortions to which foreign traders are often exposed. The high-caste princes are seldom guilty of such misdeeds, but they wink at the robberies of their relations, and it is difficult to obtain justice from the princes against these pests of the land. The Gustis in the countries ruled by Wesya princes, and the Devas in those where Xatriyas reign, have properly all the official posts about the prince, but although they derive much honour from these, they get little pay.

Feudal System.

As Raffles has observed, the condition of Bali very much resembles that of Europe in the middle ages; there is *a feudal system throughout the land.* The *Deva Agung* must be regarded as *the supreme feudal lord;* in ancient times he was so in reality (see Usana Java, above). How this is modified now, we have already seen. He still calls the other seven princes, and also the prince of Lombok, his *Punggawas*,[1] which in Bali conveys the idea of *vassal.* The rest of the princes *(Xatriyas* and *Wesyas)* have subdivided their land among the members of their families, and so we find in Badong the princes of *Kaleran Kawan, Kaleran Kanginan, Ngurah T'gas,* the prince of *Galogor,* and Kassiman's brother with their children as Punggawas of Den Passar (formerly most of them were under Pam'chuttan, but they have preferred to acknowledge as their lords the two warlike princes of Den Passar, Kassiman's father and brother; unless Kassiman had interfered, even the sovereignty over Badong itself would have been transferred from Pam'chuttan to Den Passar). Now they are all under Kassiman, but only in so far as Den Passar also is under his sovereignty. The real Punggawas of Kassiman, in his small original territory, are few in number, and, for the most part, merely the descendants of his brothers, who were entirely without means.

[1] *Punggawa*, "bull" and "excellent" in the Sanskrit.

Under these princes, who are Punggawas of the highest princes and mostly closely related to the royal families,[1] stand the rest of the Gustis, also as Punggawas; these also have an undefined authority over the men whom they rule, and have even the power to punish with death; the prince above them and the prince of the whole kingdom do not trouble themselves about their subjects further than their feudal duties are concerned. The *Diaksas*[2] have merely to pronounce judgment between the Sudras and sometimes between Gustis of equal rank; in all cases concerning the distinctions of caste and feudal duties the princes and Punggawas are judges; in spiritual matters, however, the Padandas act in this capacity.

The primary feudal duty, as in the middle ages, is *service in war;* and further, the Punggawas and their subordinates have to furnish assistance in all *public works and festivals* of the prince, and the lower orders also have to carry out all the works of the Punggawas. The people, under the guidance of the Punggawas, have to build the princes' palaces and places of cremation, to repair the roads, and besides this to contribute, mostly in kind, towards the expenses of all offerings, family feasts, and cremations. The direct taxes are very unimportant; the common man pays a small tax on garden land, and a little more on sawahs. The princes, therefore, cannot be rich, unless they possess considerable private means; they are powerful, however, so long as their names hold the Punggawas in subjection, and they can therefore celebrate their splendid feasts and cremations without cost to themselves, and sometimes even with advantage to their private treasuries, their faithful vassals zealously contributing to these ceremonies. (One of the reasons why the great cremation in Den Passar does not take place is, that the

[1] We do not find many exceptions to this rule; in Tabanan the prince is descended from Marga; in Klongkong, *e.g.* Ngrurah Pinatih, from Arya Bleteng. In Gianyar Sukawati.

[2] I write *Diaksa* instead of *Yaksa* (as the judges are usually called in Bali and Java), on the authority of a manuscript, where the writing with the second *d* reveals the origin of the word. *Diaksa*, which is also found as *Adiaksa* in the MSS., is Skt.—*adhi* and *aksa*, an inspector, protector (see Wilson). *Yaksa*, on the contrary, is a sort of demon, allied to the Râksasas.

present prince is not in very high esteem with the Punggawas, and that not enough is contributed towards it. Besides this, Kassiman retains the revenue.) To the revenues of the princes and the Punggawas belong also the duties on commerce, the customs-duties, and the bridge or road-tolls.[1] Trade especially produces a considerable revenue for the prince, and has made the princes of Badong comparatively rich, above all Pam'chuttan and Kassiman. Karang-Assem also makes a great deal by it. These imposts affect only the lower orders, and the Chinese, Buginese, and Europeans. The Gustis, Devas, and Idas who carry on trade pay no duty upon it. The feudal lords, princes, and Punggawas still do something for the people—they give them water, and the making of canals and the effective irrigation of the rice-fields is their duty; in return for this, however, they draw a small revenue from the rice-growers.

Sudras.

The fourth caste, the *Sudras*, have many duties and hardly any rights, at any rate as regards the higher castes. Their subjection goes so far that the prince or Punggawa can take out of their houses whatever he likes; when the prince goes from one place to another, the victuals, fowls, ducks, geese, etc., are usually taken by the Parakans (followers of the prince) from the houses of the Sudras in the *dessas* through which the route lies, and the persons thus robbed may not even complain. The prince or Punggawa can even take away the wives of a Sudra, but religious feeling is opposed to this, and still more to the murder of a Sudra, who has committed no fault, by a noble. Both acts are done, however, although they are of rare occurrence, in Badong. The wanton young Gustis and Devas think that they prove their valour and noble birth by the abduction of women and the murder of innocent beasts of burden, such as the Sudras are.

[1] I am only acquainted, however, with two bridges in Bali (excepting those over small brooks) in any way worthy of the name—one at Kutta, built by Europeans with Balinese aid, and one, very dangerous for want of planks, over a rocky chasm in Tabanan.

In Badong, old Kassiman suppressed such deeds, and the fear of punishment after death also has a deterrent effect.[1] Nevertheless the position of the Sudras is most miserable, and only rendered supportable by their courage and industry, and by the belief that they are born to it. An exception to the rest of the Sudras is formed by the Parakans (the followers of the princes, etc.); these lead as idle a life as the princes and Punggawas to whom they belong, and plunder the rest of the people. These and the nobles are the chief cock-fighters and opium-smokers, for the inhabitants of the *dessas* take little part in these dissipations. Another exception to the lot of the ordinary Sudras is formed by the *Mandesas*, *Prab'kêls*, and others, who occupy official posts.

Mandesas are the *dessa*-chiefs; they have been degraded to Sudras by the Deva Agung, having been Wesyas by birth. Under them are the *Kabayan*, *Nguhukin*, and *Talikup*, Sudras by birth, who carry out the orders of the Mandesas.

Gadoeh are the Mandurs in the *dessas*; they are Sudras by birth. *Dangka* and *Batu-Aji* are under these.

Pasek are also Wesyas who have been degraded to Sudras, and still retain a certain superiority of rank above the rest of the populace.

We find all these names in the Usana Bali (see p. 262), where their special religion is mentioned (the Usana Bali, as we have seen, is only of importance to the Sudras and their chiefs of the same caste).

The names are not heard in ordinary life, with the exception of *Mandesa*. For all the rest the collective name *Prab'kêl* (the collective B'kêls) is used. These have a certain number of common Sudras under them at the prince's disposal, to serve in war or on public works, and also to exercise handicrafts (as smiths, etc.). They are responsible for the presence and the work of their subordinates, just as the Mandesa is responsible for his dessa. *Prab'kêl* or *Pam'kêl*,

[1] Balinese superstition regards the fate of the first *Deva Mangis*, the founder of Gianyar, and that of the wife of the last Deva Agung, the much-feared princess of Karang Assem, as examples of such punishments; the former was changed into a serpent (*nâga*), and the latter into a frog (*dongkang*). Both had murdered many victims.

also *M'kêl*, has become a title for every superior among the Sudras—the owner is the M'kel of the slave, the husband the M'kel of the wife. This exalted rank is also accorded to Europeans, but they stand below the three principal castes; they have not been born twice (*dvija*).

The Balinese Sudras are partly of Javan and partly of Balinese origin. The former celebrate the new year (*Sugian*) six days before the Balinese new year (*Galungan*). The latter, however, is taken as the beginning of the calendar by the whole people.

In addition to the above, degraded Brahmans, Xatriyas, and Wesyas also belong to the Sudras. The original Wesyas, those who came from Majapahit, have all become Sudras, and this at the same time that the descendants of Arya Damar were degraded to Wesyas. The reason given for this does not agree with that of the degradation of the Xatriyas. All castes, namely, are said to have descended a step, excepting the original Brahmans. The descendants of *Batu Henggong*, the Deva Agungs, who, on account of their procreation by the *Padanda Dang hyang Kapakisan*, were also regarded as Brahmans, sank back, through the curse or the anger of the Padanda who produced the Nâga from the well (see as to the *Nâgab'anda*, under *Cremations*[1]), to true Xatriyas, and the consequence of this was the degradation of the other Xatriyas to Wesyas, and of the Wesyas to Sudras. This explanation is open to great doubt. Most of the descendants of the Aryas, the brothers of Arya Damar, have been degraded to Sudras. They were degraded, as we have seen, to Wesyas, but when they had also lost their governorships and their authority, oppressed by the descendants of Patih Gaja Maja (the royal race of Mengui-Karang-Assem), they gradually sank to the rank of Sudras. Many of them are still called Gustis by the people, but they have to give their services as vassals to the princes in whose territory they live, and no longer enjoy any honour. The conquered are always despised and degraded in Bali. Brahmans are also degraded to Sudras, if, on account of frequent intermixture with Sudra

[1] Antè Vol. IX. p. 95.

blood, they are no longer considered capable of retaining their dignity. An instance of a Padanda being thus degraded is actually mentioned. Brahmans do, indeed, become Sudras, but the people hold the caste in such great respect, that they are still regarded and honoured as Brahmans. *Brahmana chute* are mentioned in the Usana Java; the Balinese explain these to be lying and thieving Brahmans, who, on account of their conduct, have sunk to the rank of Sudras. *Chute* is, indeed, in Sanskrit, *chyuta*, "fallen."

Sangguhu is a subdivision of the Sudras, *who are acquainted with the Vedas*, and perform the ceremony of domestic worship, as well as the priests. If they have, indeed, the Vedas (they may be only *Mantras*, formulas), it would seem that they were originally Brahmans. Now we find in the Usana Java a statement that the *Sangguhus* are, in fact, descended from Brahmana-Brahmani, and thus are pure Brahmans, and that they were degraded on account of the worship of the *Dalem mur*, that is, *the god of death* (perhaps as indicating an exclusive *Kâla-worship*, which no longer exists in Bali). We have therefore had in Bali departures from the worship of the gods, not to say sects. The present Brahmans, who have suppressed the sect referred to, now tell us, to conceal the existence of any other worship but their own, that the Sangguhus are descended from a *parakan* (follower) *of a learned Padanda*, who was hidden under the *Bale* whenever the Padanda performed his domestic worship, and so came to understand the Vedas. When he was discovered, the Padanda set him at liberty, that he might perform the Veda-worship for himself and his descendants. From him are descended the *Sangguh* or *Sangguhu*, which word is explained by means of *kira: having the appearance of being Brahmans.* There is some number of them in Bali.

Byagaha are also mentioned in the Usana Java as a distinct class, and these appear to be of the same rank as the Sangguhu. The name, however, is almost unknown, even to the Panditas. Thus in the three classes of Sudras last mentioned, we find also no mixture of caste; but they all three point to

the former existence of sects, or at least to some departures from the orthodox religion.

It would be a fortunate thing for the Sudras to be freed from the oppression of the princes and Punggawas. The number of noble idlers increases every day, and presses more and more heavily upon the poor Sudra populace. One means of escaping from the oppression of a prince is to flee to another state, but even this avails them little, for the prince of the state in which the fugitive seeks refuge immediately imposes upon him the very burdens from which he has fled. Besides this, a fugitive who arrives without his family is sold by the prince, in order to make some profit out of him, and to prevent his escaping again to another country. The best asylum is generally afforded by the Padandas; the prince has no right to fugitives who seek refuge with them, and there are several kind-hearted really pious men among these Padandas, who consider it shameful to sell a person seeking an asylum, or even to require much work from him. Many Padandas, however, are also genuine natives, and avail themselves of these cases to enrich themselves. The chief curb upon the despotism of the noble castes over the Sudras is, in fact, the fear lest they should run away, and the power and revenues of the nobles should thereby be diminished. The Balinese, however, are unusually attached to their country and their dessa; ordinary extortion does not drive them to flight; it is generally only some glaring cruelty or the fear of being sold out of Bali that induces them to escape. Still, the fact that there are always many fugitives in Bali shows the injustice and cruelty of most of the princes, and the degeneration of the system of caste. In Badong there are very many fugitives from Gianyar, Mengui, Klongkong, and Karang-Assem; on the other hand, scarcely any fugitives from Badong are to be found in the other states. The reason of this is, that the government in this state is comparatively mild and humane, and this is attributable to Kassiman's higher intelligence and his contact with Europeans. For the sake of humanity it is desirable that intercourse between Europeans and the Balinese should increase,

and that the position of the Sudras should thus be improved, at any rate a little, if they could not be entirely freed from their oppressors. The character of the Balinese as a people, irrespectively of their castes, has been very accurately perceived by Raffles: *they are a manly nation*, both in body and mind, far superior to the Javanese (although outwardly less civilized), and endowed with many virtues which in Java have disappeared beneath the mire of immorality and fickleness. The Balinese (excepting those who carry on trade and are corrupted by undue gains) are *faithful* and *honest* and *can work hard*; it is only for their prince that they work reluctantly, for they receive from him neither payment nor food; and, finally, they are *braver* than all other natives, but against the European they are as incapable of resistance as all the descendants of the black Adam, and the defiant language employed to Europeans comes from a timid heart. The European is as a tiger to all natives, and they know him by instinct.

Caste in Java.

The existence of caste in Java has hitherto been denied, but what we now know of Bali appears to have placed it beyond doubt. That all the institutions of the Balinese are of Javan origin is affirmed by the manuscripts and the oral tradition of the people. The Usana Java enumerates *Xatriyas* of *Koripan* (where Panji lived), of *Gaglang* or *Singhasari*, of *Kediri* or *Daha*, and of *Janggala*. In all the great kingdoms of Java, therefore, Xatriyas existed. The descent of the Xatriyas of Daha is traced in the Brahmândapurâna to the Muni Pulaha. In the same work the Brahmans are divided into *Siva-Brahmans*, *Buddha-Brahmans*, and *Bujangga-Brahmans* (thus the Brahmans in Java were exactly like those now in Bali); these are sons of Brahmana Haji, that is to say, the various forms of worship are derived from Haji Saka, the founder of the Indo-Javanese calendar. *Bujangga* seems in ancient times to have been a distinct sect. We have spoken of the present meaning of this word; it seems

formerly to have meant a particular kind of worship, in contradistinction to Siva and Buddha.[1] The Wesyas are also mentioned in the Usana Java as existing in Java; to these belong the *Patihs*, D'mangs, and Tumenggungs. The names Wesya and Gusti (see Tijdsch. v. N. I. 7, 2, 185) still exist in Java, although their meaning has become obscure. The *Sudras* are expressly mentioned, and their name also is still heard in Java.

In the Usana Java (which really only relates to Java) the *Brahmans* spring from Brahma's *Sivadara*, the opening in the head which in children does not close for some years, the *Xatriyas* from his *breast*, the *Wesyas* from his *abdomen*, and the *Sudras* from his *knee*.

The nobles of the courts of Daha and Majapahit, according to express testimony, were *Xatriyas* and *Wesyas*. To the *Xatriyas* belong all those who bear the title of *Arya*, *K'bo*, or *Mahisa* and *Rangga*. The titles of the Wesyas have just been given.

The appearance of caste and the existence of the Vedas in Bali afford the strongest evidence for the existence of both in ancient Java, because all that we find in Bali was derived from Java *alone*, not a single fact discovered in Bali proving, or even indicating, direct communication between this island and India, and because the Siva Brahmans, who, after having established themselves for a short time at Majapahit, crossed over to Bali, came, according to the Balinese, not direct from India, but from the interior of Java (*Kediri*). The real origin of all the Balinese institutions is also shown by the fact that we find nothing to remind us directly of India, and no ancient writing, Sanskrit, Kawi, or Javanese: we may well ask how could emigrants from India have so neglected and forgotten their own writing and language, and have merely preserved the modern Javanese writing and the Kawi tongue?

[1] The word *Bujangga* means a *serpent*; in India the serpent-worship has been adopted in the Brahmanical doctrine; we find it especially in Cas'mira; serpent-worship is still found in Java and Bali (Vasuki), and the Bujanggas appear to have originally been serpent-worshippers, who afterwards joined the Sivaitic sect.

The Calculation of Time in Bali.

The calculation of time is of two kinds: the *Indian* and the *Balinese*. All that we know of it is contained in a work called *Wriga Garga*.[1] This work is composed of Indian and Polynesian elements, and, like the rest of the literature, must be of Javanese origin, as in that island alone do we find an almost identical calendar.

We have an Indian division of time, according to the *lunar months*. These months, however, are transformed by interpolation, into the solar year, and the solar years are calculated from the time of *Salivahana* or *Saka*, as is also the practice in the greater part of Hindustan and of the Dekkan. This calendar begins on the 14th of March, 78 B.C. This calculation, however, is but little used by the Balinese, and their scanty astronomical knowledge renders it extremely difficult, although, for the sake of agriculture and a few feasts, it must be preserved. The interpolation is irregular; in India two months are introduced in five years, but in Bali, on the one hand, the month of *Kartika* may comprise two months, and, on the other, the month of *Asada* may last till the constellation of the Pleiades *(Krêttika)* is visible at sunset. The only constellations used by the Balinese in such calculations are the Pleiades and Orion. The latter is called *Waluku*, the plough, and also by the Indian name *lânggala* (in Malay *tengala*). They understand by this, however, only the three centre stars of Orion. To supplement this defective means of calculating the year, the Balinese observe certain natural phenomena occurring regularly every year at the same time, such as the blossoming of certain flowers and plants and the appearance of wings on the white ant, and also the phenomena of the sea. A man of rank informed me that the interpolation of a month had only happened three times in his life. This would give an interval of about twelve years

[1] *Garga*, according to Wilson, is one of the ten Munis or saints; one Garga is also the author of astronomical works in India; see Bentley, "Hindu Astronomy," p. 54; his book is named Sanhita; he lived 550 years B.C. The Balinese Calendar as it is, however, cannot be derived from him, because it contains elements never known in India.

between each interpolation; it is more probable that an interpolation is made every ten years, hence the name *tenggek* for such a division. At present the Balinese lunar months are rather more than thirty days in advance of the Indian, as fixed by Wilson. The year begins with the month of *Kasanga;* the Indian name for this is *Chetra*, and commences, according to Wilson, in March. This, then, proves that the Balinese years do indeed start from the exact date of Saka (14th of March), and Raffles' and Crawfurd's conjectures as to the difference of the calendar in Java and Bali can be solved by assuming that the Balinese have retained the ancient and true calendar, whilst the Javanese, through Muhammadan influence, have forgotten how to calculate the solar year, and have, therefore, got seven or eight years further from Saka than they should be.

All the months but two *(Jyes'ta* and *Asada)* have both Sanskrit and Balinese names.

The Sanskrit names are:

1. S'râwana.
2. B'âdra or Bâdrawada (Sanskrit Bâdrapada).
3. As'uji or As'uje (derived from As'vayuj).
4. Karttika.
5. Mârgas'ira or Mârgas'îrsya.
6. Pos'ya or Paus'a.
7. Mâga.
8. P'âlguna.
9. Mad'umasa or Chetra.
10. Wes'aka.
11. Jyes'ta.
12. Asâd'a.

The Balinese names for the first ten are the ordinal numbers from 1 to 10:

1. Kasa.
2. Karo.
3. Katiga.
4. Kapat.
5. Kalima.
6. Kanam.
7. Kapita.
8. Kahulu.
9. Kasanga.
10. Kadas'a.

We have no Balinese names for *Jyesta* and *As'âda* (vulgo *Sada*), and this leads us to suspect that the original Balinese-Javanese year, like that of the ancient Romans, had only 10 months. Now we find in the purely Balinese calendar, of which we shall speak shortly, divisions of 35 days or 5 weeks, which, it is true, do not now possess a special name, but no doubt originally corresponded with the 10 months; 10 times 35 gives about the duration of the year of lunar months, 354 days. The addition of *Jyes'ta* and *As'âda*, then, occurred at a later period, when Indian influence had led to

the division of the year into 12 months, each of 29 or 30 days.

In the year 1847 the first day of the month *Kasanga* or *Chetra* was on the 16th of February; in 1848 on the 5th of February; in 1849 it will fall on the 24th of January. In 1844, on the contrary, it was on the 24th of March, almost on the day on which, according to Wilson, the Indian month *Chetra* should begin. Although in Bali, from ignorance of the calculations, the method of fixing the solar year is obscure, and is known but imperfectly to a few learned priests (who themselves cannot properly explain the reasons for it), yet we learn from the tables called *Pengalihan wulan* (the searching of the moon) how the time of the Balinese calculation is brought into accordance with that of the lunar months: 64 lunar months, of which 30 are of 29 and 34 of 30 days, give us 1890 days, which agree with 9 Balinese years of 210 days.

According to the Indian calculation, there should be one or two intercalary months next year (1849), because then the difference between the solar and the lunar year will be from the 24th of January to the 20th of March, and will thus amount to 55 days; nothing, however, has yet been said to me of any such intention. In India, as we have already pointed out, there are 2 intercalary months every 5 years called *Malimlucha;* this name is unknown in Bali, nor have I heard any name which could correspond to it.

The six Indian seasons do not exist in Bali. The lunar months are chiefly important for fixing certain feasts. For all other dates use is made solely of

The Balinese Calendar.

This is formed by a combination of the *Polynesian week of 5 days (pahing, puan, wage, kaliwon, manis)* with the *Indian week of 7 days (Rediti,*[1] *Soma, Anggara, Budd'a, Wrêhaspati,*

[1] The name *Rediti* can only be explained by *Aditia*, "sun." The substitution of *rê* for *â* may well have arisen by the uncommon initial *a* having been taken for the sign *rê*, which is very well known. *Wrêhaspati* is found in good MSS. for Respati, which is the ordinary pronunciation.

Sukra, Sanes'chara); this combination gives us 35 days, which form the basis of the Balinese calendar; we write them thus:

Budda kaliwon,
Wrêhaspati manis,
Sukra pahing,
Sanes'chara puan,
Rediti wage,
Soma kaliwon,
Anggara manis,
Budda pahing,
Wrêhaspati puan,
Sukra wage,
Sanes'chara kaliwon,
Rediti manis,
Soma pahing,
Anggara puan,
Budda wage,
Wrêhaspati kaliwon,
Sukra manis,
Sanes'chara pahing,
Rediti puan,
Soma wage,
Anggara kaliwon,
Budda manis,
Wrêhaspati pahing,
Sukra puan,
Sanes'chara wage,
Rediti kaliwon,
Soma manis,
Anggara pahing,
Budda puan,
Wrêhaspati wage,
Sukra kaliwon,
Sanes'chara manis,
Rediti pahing,
Soma puan,
Anggara wage.

We find these combinations of 35 days six times in each Balinese year of 210 days, but they are not called months. On the other hand, each of the 30 weeks has its own name. We find these names in Raffles, vol. i. p. 476. The order of sequence is the same in Bali, but some names must be corrected. Each division begins with *Budda kaliwon*, the day on which Galungan, the Balinese new year, falls, and not on *Rediti* (or *Diti) Pahing*, as Raffles asserts. The week in which the year begins is Dunghulan; *Sinta*, however, is always named as the first week in Bali, as in Java; the names are:

1. Sinta
2. Landêp
3. Wukir
4. Kurantil
5. Tolu
6. Gûmrêg
7. Wariga
8. Warigadian, or Wariganing Wariga
9. Julung Wangi,
10. Julung Sungsang
11. Dunghulan (in Raffles Galungan)
12. Kuningan
13. Langkir
14. Madang Siha
15. Julung Pujut
16. Pahang
17. Kurw'lut
18. Marakih
19. Tambir
20. Madangkungang
21. Mahatal
22. Huje
23. Mênahil
24. Prang Bakat
25. Bala Muki
26. Hugu
27. Wayang
28. Kulawu
29. Dukut
30. Watu gunung.

Raffles, vol. i. p. 376 sqq., gives the fable respecting the origin of these names of the weeks. I have not yet heard anything of it in Bali. In Bali this division, like the rest of the calendar, is said to be derived from India. Its introduc-

tion was no doubt made by the priests at an early period, in order to add to the sanctity of the religious feasts and institutions, which are regulated according to this calendar.[1]

Of the 35 days the *first*, *eleventh*, and *twenty-first (Budda kaliwon, Sanes'chara kaliwon* and *Anggara kaliwon)* are sacred. Here again, therefore, the decimal system prevails. In the first five weeks, the feast of *Galungan*, the new year, falls on Budda kaliwon, the feast of *Kuningan* (in Crawfurd Galunan and Kuninan) on Sanes'chara kaliwon, and finally the feast in the principal temple of Uluwatu in Badong on Anggara kaliwon.

Some Balinese only call this year of 210 days a half-year. It is indeed, however, their civil year, and they are only disposed to regard it as a half-year to make it agree with the Muhammadan, Chinese, and European year.

Each of these 35 days has a constellation, which indicates its good or evil qualities, and is of special importance for nativities; these constellations are not the same, however, as our own, or even as the Indian, for, with the exception of the *Waluku* (Orion) and the *Krettika* (the Pleiades), the signs are somewat arbitrary.

Astrological Calendar.

These constellations, which decide the good or evil fortune of the day, are called *lintangan* (lintang=bintang, "star"). They are supposed to pass into the body of people born on that day.

Rediti manis has the *Ancha-ancha*, a human figure standing on its head and hands. People born on that day have weak bodies and weak voices, but are impertinent to their parents.

Rediti pahing, the *Gaja*, elephant. This signifies sorrow caused by other people.

Rediti puan.—Patrêm, the creese. This signifies a predisposition to suicide.

[1] *Sapta Resi* (the seven ancient saints, sages) are said to have prepared it. The *pengalihan bulan*, also, in which the lunar calendar is brought into agreement with that of thirty weeks, is attributed to the same persons.

Rediti wage.—*Waluku*, the plough (Orion). Signifying happiness late in life.

Rediti kaliwon.—*Gowang*, a body without a head. A strong propensity for stealing and robbery.

Soma manis.—*N'yu*, the gooseberry-bush. Happiness and riches, which, however, will not last long.

Soma pahing.—*Dupa*, incense. Early death of the married man or woman.

Soma puan.—Ulanjar, a divorced woman. One who is prone to take upon himself the faults of others, and gets into dilemmas.

Soma wage.—*Lémbu*, a white bull. Happiness and riches.

Soma kaliwon.—*Padati Sunya*, the empty cart, deserted by its driver. Easily robbed.

Anggara manis.—*Kuda*, the horse. Disposed to bad tricks.

Anggara pahing.—*Juju*, the crab. Good sense and speedy acquirement of wealth.

Anggara puan.—*Asu ajak*, the wild dog. Excellence and boldness in war, esteem among the great.

Anggara wage.—*Jong sarat*, the overladen boat. Probable misfortune at sea.

Anggara kaliwon.—*Cheleng*, the hog. Success in breeding swine.

Budda manis.—*Ngerang-erang*, weeping, lamenting. Much sorrow all one's life.

Budda pahing.—*Gajamina*, half elephant, half fish. A good omen.

Budda puan.—*Lumbung*, the rice-barn. Wealth of goods and money quickly obtained; fortunate in travel.

Budda wage.—*Krettika* (the Pleiades). In marrying, will obtain many slaves. Spends much and makes many presents, is beloved by the princes.

Budda kaliwon.—*Titiwa*, the carrying away of dead bodies, or the depositing of the dead in the place of burial. Loss of children.

Wrehaspati manis.—*Sangal tikel*, the broken axe. All undertakings unsuccessful.

Wrehaspati pahing.—*Salah ukur*, discontent and constant strife with men.

Wrehaspati puan.—*Bade*, the bier (on which corpses are burnt). Many long illnesses.

Wrehaspati wage.—*Kumba*, the vessel with holy water.

Wrehaspati kaliwon.—*Naga*, the serpent. A very bad disposition.

Sukra manis.—*Banyak angrîm*, the brooding goose. Loss of property by theft.

Sukra pahing.—*Bubu bosor*, the open bow-net. Quick change, coming and going, rich and poor.

Sukra puan.—*Prawu p'gat*, the broken boat. The husband will be deserted by his wife, the wife by her husband.

Sukra wage.—*Mengrabut untang* or *glutan*, the shifting of one's faults on to another's shoulders.

Sukra kaliwon.—*Udang* or *makara*, the sea-lobster. Poverty in youth.

Saneschara manis.—*D'pat*, a head. (This and the *Gowang*, see Rediti kaliwon, remind us of the head and the body of the demon Rahu, which pursue the moon.) Many members of the family will die.

Saneschara pahing.—*Ru*, the dart. Boldness and skill in war, esteemed by princes (Sanskrit, *ru*, "war, battle").

Saneschara puan.—*Sengenge* (Jav. Srêngenge), the sun. Freedom from sickness.

Saneschara wage.—*Puhuh tarung*, a species of quail (Dutch *vecht-kwartel*, the "fighting-quail"). Much fighting.

Saneschara kaliwon.—*Jampana*, the bier. Much misfortune. Repeated illness.

There is not much astronomical science in all this, and many of the ideas are really ridiculous, yet the Balinese attach value to them, and those who are born on a day with a good constellation often boast of it.

In addition to these astrological meanings of the 35 days, there are for each of the seven days of the week: (1) *a god*, who presides over it; (2) *a human figure*, indicating the character of the person; (3) *a tree*; (4) *a bird*; (5) *a buta* (demon); (6) *a satwa* (beast). The nature of these is supposed to indicate what the character of the person born on that day will be.

The seven gods are given, following the order of the days of the week, beginning with Sunday, as follows: *Indra, Uma, Brahma, Wishnu, Guru, Sri, Yama;* or, according to another account, *Indra, Prêtiwi, Wis'nu, Brahma, Guru, Uma, Durga.* The seven Butas are: *Hulu asu* (dog's head), *Hulu k'bo* (buffalo's head), *Hulu kuda* (horse's head), *Hulu lembu* (cow's head), *Hulu singha* (lion's head), *Hulu gaja* (elephant's head), *Hulu gagak* (crow's head). From these the man obtains his passions, and from the beasts his lower qualities.

According to the astrological notions of the Balinese, the day is divided into five parts, each of which has a separate name, although they occur in different order on different days. Raffles also mentions a division of the day into five parts in Java; but in Bali we have different names and rules for this division. The principal part is called *Mreta* (Amrêta); he who is born at this time of day is certain to have good fortune. The five parts of the days undergo twelve changes, and to know their order on a particular day, the number of the day of the Indian week is added to that of the day of the Polynesian week, and the result is one of the twelve combinations of the five parts of the day (and also of the night). The rest of the divisions (besides *Mreta*) are *sunya* (empty, poor), *kala* (passionate; after the god Kala), *pati* (must die), *linyok* (will become bad and thievish). The day is further divided, in a civil aspect, *into eight hours, dadauhan*, calculated from sunrise to sunset (their names are, *dauh pisan*, stroke one, *dauh ro, dauh tiga* or *telu*, etc.). The night is also divided into eight parts in the same manner. To find the hour, a sort of water-clock (clepsydra) is used, consisting of a clapper with a little hole in its bottom, which rests on the water. As soon as the clapper is filled, it is emptied by an attendant, and the number of strokes are given at the same time upon a drum. Contrivances of this kind are to be found in the principal palaces—*e.g.* in Den Passar (in Badong), Mengui, etc.

The lunar month is divided into the white and the black half, *s'ukla-pak'sa* and *kres'na-pak'sa* (literally, the white and black wing), as is the case in India. The days of the white half are called *tanggal*, and are reckoned from new to full moon;

those of the black half are called *pangluang*. To describe a date, the Balinese give the day of the week (of the Indian week of seven days as well as of the Polynesian of five), the name of the week (according to the Balinese division of 30 weeks), the name and the half of the lunar month (white or black), the day of that half, and finally the year, calculated from Saka. Instead of the year of Saka, they also give simply the year of the century, the century itself being understood. The century is divided into 10 divisions, each of 10 years; each such division is called *tenggek*, each single year *rah*. Thus we have, for instance, on the 26th of June, 1847, *Saneschara* (Saturday) *kaliwon* (according to the Polynesian week) *wara Landap* (in the week of Landap) *masa kasa* (in the month of Kasa) *sukla pak'sa* (in the white half; also simply *tanggal*, with a waxing moon) *ping* 13 (on the thirteenth day) *rah* 9, *tenggek* 6 (thus 69). Adding to this the century (1700), we get the year of Saka 1769, to which 78 must be added to arrive at the year of our Lord (1847).

Besides the *Wriga garga*, which, as we have said, is entirely of Indian origin, there are two other works upon the calendar, which, however, are no longer used; their titles are *Sundari*[1] *trus* and *Sundari bungka*. As I have not yet been able to get a sight of them, I cannot say much about them. The Pandita in Taman said that these works are more recent than the Wriga Garga, and were composed in Java, whereas the Wriga Garga was composed in India (Kling). They were used formerly, but the Balinese priests have given the preference to the older Wriga Garga. This also is an instance of their adherence to all that is ancient and, in their opinion, of Indian origin. The Wriga Garga appears to date from the time of the kingdom of Daha (Kediri), whence our priests are descended, and which kingdom, as we have seen, they often confound with India and call *Baratawarsa*.

We have enumerated in the Tijdsch. van N. I. 8, 4, 211, still further divisions of time, namely a *dvivara*, *trivara*, *cha-*

[1] The name *Sundari* is Sanskrit, and means "the fair one." *Trus* and *bungka* are Polynesian additions; the former seems to indicate that it contains a *continuous* calendar.

turvara, sadvara, astavara, sangavara, and *dasavara,* besides the *saptavara* and *panchavara;* all these are less prominent in ordinary life. The *trivara* serves to indicate the market-days, as the Panchavara does in Java; there is a market every third day *(Dvara).*

The *s'advara* is often found in dates added to the *saptavara* and *panchavara.* The names of the *sadvara* are Polynesian: *Tunggleh, Haryang, Wurukung, Paniron, Was, Mahulu.* Thus the first day of the week *Sinta* is *Tunggleh Paking Rediti,* the second *Haryang Puan Soma,* the third *Wurukung Wage anggara,* the fourth *Paniron Kaliwon Budda,* the fifth *Was Manis Wrehaspati,* the sixth *Mahulu Paking Sukra,* the seventh *Tunggleh Puan Sanesehara.* The remaining divisions are chiefly used for astrological definitions. I have not yet discovered clearly how the *astavara* are brought into accordance with the tutelar deities attributed to each of the seven days of the week (see above). The names of the gods of the Astavara are: *Sri, Indra, Guru, Yama, Rudra, Brahma, Kala, Uma;* the tutelar gods of the seven week-days are: *Indra, Uma, Brahma, Wishnu, Guru, Sri, Yama,* or, according to the other account, *Indra, Pretiwi, Wishnu, Brahma, Guru, Uma, Durga.*

The *zodiac (rasi)* is also used for astrological purposes. We have given the names in the Tijds. v. N. I. 8, 4, 211. In good MSS. we find them written still better according to the Sanskrit. The signs of the zodiac, which I found drawn in a manuscript, are the Indian ones; there is no aquarius, but only the water-pitcher (kumba), and instead of the ram there is a shrimp (udang=makara). *Mrechika* is Skrt. *Wresehika,* the scorpion. *Rakata* should be *Karkata.* What is most remarkable is, however, *the absence of the tula* (scales) in the manuscript referred to. This could not be an accidental omission, for the claws of the scorpion stretch over the place where the *tula* ought to have been, and the scorpion thus took up the room of two signs. Now it is well known that the Greeks in ancient times had only eleven signs of the zodiac, and that it was precisely the scales which were absent, and also that it is supposed that the scales originated out of

the claws of the scorpion; although it is not certain whether a sign was lost in the course of transmission from the East (or from Egypt), or whether there were only eleven originally. The discovery of a zodiac with eleven signs in India now renders this question still more intricate. This zodiac cannot have come from the West, for the entirely Indian character of our zodiac excludes this theory; we must therefore suppose that in India also the zodiac once had but eleven signs, and that it was not till later times that the scales were added both in India and in Greece. In Bali all twelve signs are given by name, and thus here also a twelfth has been added; but the fact that we found in Bali the drawing referred to proves that at the time of the first intercourse between India and Java the zodiac still had but eleven signs in the former country. It is not known whether a similar zodiac has been found in India, but it would be of the highest importance to obtain further information from there on this point, and if possible to determine the age of such representations, which would furnish a date of the utmost importance both for the history of astronomy and for that of civilization in Java.

The eclipses of the sun and moon are explained in Bali, as in India, as the devouring of these bodies by a demon *(Rahu)*; the eclipses of the sun are called *graha* and those of the moon *rahu*, which in India, however, is no distinction, as the former means the act of devouring and the latter the devouring demon. To help the moon on these occasions, the Balinese make a terrible noise with their rice-blocks and other instruments, as they do on the eve of Galungan and of the fast-days *(nyêpi)*, when the evil spirits are driven away by noise. The Panditas know that Europeans predict the eclipses of the sun and moon, and questioned me about it; they themselves, however, are ignorant of the method of calculation. They also keep this knowledge secret from the people, as the following instance will show. A European, Mr. M., lived some time in Tabanan, and was very intimate with the young prince. On the approach of an eclipse of the moon, he predicted its occurrence to the prince, who was very pleased thereat, but was compelled by his priests to banish

the European from his country, for since the European knew more than the priests, it necessarily followed that he was possessed of an evil spirit from which he obtained his knowledge. Had the European first told it to the priests, they would not have driven him from the country, but would have displayed their knowledge to the people.

As I do not possess a MS. of the Wriga Garga, I cannot give here any further information as to the astronomical and astrological science of the Balinese, although it is most worthy of attention. The greater portion of the people are still utterly ignorant of the calendar. Even among the priests this science is only retained mechanically; but what knowledge they have they use especially to make the people dependent upon them. Every important undertaking requires the help of the priest as the mediator with the deity, and as astronomer and astrologer.

Art. IV.—*Unpublished Glass Weights and Measures.* By Edward Thomas Rogers.

In a paper published in the Numismatic Chronicle (1873, Part I. page 60), I enumerated and described all the glass discs with Kufic inscriptions which had till then come under my notice; comprising those in my own cabinet, M. Sauvaire's collection, and others in the possession of the Rev. Greville Chester. I then advanced my reasons for believing that these discs were standard coin-weights. The theory that they were tokens, or equivalents of coins, had been supported by several learned writers; but all those students and collectors with whom I have since been in communication now recognize them as weights.

A short time ago I had the privilege of visiting the Slade collection in the British Museum, under the guidance of its learned Curator, Mr. A. W. Franks, who kindly allowed me to examine those specimens of Oriental glass in which I take special interest; and who has since furnished me with casts of three glass discs, to which it is one of my objects in the present paper to draw special attention.

Two of these discs are undoubtedly *weights*; but the third belongs to a different category, specimens of which are so rare that I have only met with three examples, and I am not aware that any one of them has been published.

It is in fact a stamp, broken from a vessel manufactured by authority, and issued for use as a measure of capacity. It thus possesses a new and special interest, in that it shows the application of glass by the Arabs to a use of which modern students were not aware.

I have to express my thanks to Lord Talbot de Malahide for having, by the intervention of Mr. R. S. Poole, kindly allowed me the privilege of examining a collection of glass weights acquired by his Lordship during a visit to Egypt last

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GLASS WEIGHTS AND MEASURES OF CAPACITY. PL. II.

winter; and for having permitted me to avail myself of a selection therefrom for publication in illustration of this interesting subject.

Stamps on Measures of Capacity.

No. 1. Dark bluish green, transparent; diameter 1·7 inch. Slade Collection, B.M. Fig. 1.

The reverse, instead of being flat, has in the centre a convex projection, surrounded by a concave depression with irregularly broken and jagged edges, suggesting the idea that this *plaque* had formed part of a vessel, a bottle or a vase. On the obverse there is an inscription in seven lines, surrounded and partially covered by a raised rim. It is evident that the inscription and the marginal rim were produced from two different moulds, and I am inclined to believe that the former was first impressed, and that before the glass had had time to cool, the mould of the latter was pressed over it, thus obliterating portions of some of the words.

بسم الله | امر عبيد الله | بن الحبحاب ربع | قسط على يدى ح | م
بن مسرم سنة | احدى عشره و | مه

In the name of God, by order of 'Ubaid-allah-ibn-al-Ḥabḥáb, the quarter of a Ḳist, by the hands of . . . . . -ibn- . . . . . in the year one hundred and eleven.

This disc, then, as I have intimated above, is not a weight, but the official stamp on a measure of capacity. The ق of the word قِسْط is obliterated, as indeed are several other letters, by the super-posing of the marginal rim, but there seems no reason for doubting that قِسْط is the measure intended; that reading being confirmed by another somewhat similar stamp more recently discovered, on which this word occurs and is perfectly preserved.

The Ḳist, which is not to my knowledge in use, either in Egypt or Syria, is described in the dictionaries as a measure equal to half a *sá'a* (صاع); and Don V. Vazquez-Queipo, in his *Essai sur les systèmes métriques et monétaires*,[1] describes the

[1] vol. ii. p. 249.

Kist as the equivalent of half a *sá'a*, and he reduces it to its French equivalent of 1·377 litre; consequently its quarter, to which this stamp belonged, would be 0·344 litre, or a little over half a pint English measure.

The functionary by whose order this stamp was issued, 'Ubaid-allah-ibn-al-Habḥáb, was appointed Minister of Finance in Egypt, under the Governorship of Al-Hurr-ibn-Yúsuf, in A.H. 106. He retained that office under several successive Governors; the last under whom he served being Al-Walíd-ibn-Rafá'ah, in whose time, A.H. 111, this authorized measure was used.

This name appears on a glass weight, No. 373, published by the learned, but not always careful, Pietraszewski in his "Numi Mohammedani," under the heading of "Assignationes —alio modo: signata argentea;" but he has not attempted to identify this "Emir Chabchab," limiting himself, as many other numismatic writers have done, to a bare description of the coin or so-called "token," without attempting to deduce, from the name or date, any proof or illustration of historical facts; an omission much to be regretted in such works. I have not succeeded in deciphering the name of the officer or artificer "by *whose hands*" this stamp was made or issued.

No. 2. Green, transparent; diameter 1·25 inch. Lord Talbot. Fig. 2.

The reverse presents a similar appearance to that of No. 1, showing that it also formed part of a glass measure of capacity.

The inscription on the obverse is in four lines.

امر حمار بن | سرح ربع | قسط سرحر | ام

By order of . . . . . son of . . . . . quarter of a Kist . . . . .

The officer by whose authority it was issued is the same حمار بن سرح, whose name appears on a weight, No. 371,[1] erroneously described by Pietraszewski, who reads بامر حنان بن شريف مثمان دينروافر, "Ex iis quos cudi jussit

[1] The weight here referred to has happily passed into our National Collection, and I have had the satisfaction of examining it in the Medal room at the British Museum. I can thus testify to the accuracy of the engraving in Pietraszewski's "Tabulæ Numorum," and to the inaccuracy of his reading and description.

Hinnan? filius Scherifi? pretium dynari abundantis." On comparing this reading with the engraving in the "Tabulæ Numorum," we find a great discrepancy. In the engraving we find سرح just as on the disc before us, but the Professor reads شريف. The word which in the engraving is ميزان *weight*, is translated "pretium," for the Professor, believing that he had a token or glass bank-note in his hand, was induced to convert ميزان into مثمان. The word he read وافر should of course be وافٍ.

This disc is interesting in that it represents the same measure as No. 1, namely the quarter of a Ḳist, a measure I believe to be obsolete. I have not yet identified the officer by whose authority it was issued, nor can I give any satisfactory explanation of the words سر حرام at the end of the inscription.

No. 3. Green, transparent; shown to me by a gentleman travelling in the East a few years ago, who kindly allowed me to take a copy of it. I think it was Mr. Henry Moore.

Inscription in five lines:

بسم الله امر القائد | عبيد الله | مكيلة شفرا | فه‌وَافٍ

In the name of God, by order of Al-Ḳáïd-'Ubaid-allah, measure (to the brim?) . . . . . full measure.

The word مكيلة from كال يكيل *to measure*, may possibly be here used in its generic sense, followed by the specific سعرة or سعر, the meaning of which is doubtful; or it may be that the word is used as a conventionally specific measure, followed by the word which I read with some diffidence as شفر *brim* or *edge*. Derivations of the verb كال are used in parts of Egypt and Syria for various specific mea sures, notably the گيل, which is Europeanized by Levantine merchants in the word *Kilo de Constantinople*.

I have not yet identified the functionary by whose authority this stamp was issued.

I feel confident that the discovery of these stamps of measures of capacity will prove of great interest to all Orientalists, and especially to Archæologists and Numismatists; and I must

apologize for the several lacunæ which will be observed in this description of them, and which must be attributed to my deficient information. I hope that other specimens of these stamps will be found, and that thereby further light may be thrown on this interesting subject.

I will now submit a few unpublished glass weights, from which further evidence of their intended use may be deduced. I will begin with those denoting the weights of the *fils*, the copper coinage of the Eastern Khalífahs.

Glass Fils-Weight.

No. 4. Green, transparent; diameter 1·25 inch; weight 60·2 grains. Lord Talbot. Fig. 3.

Inscription in four lines:

مما امربه | احمد بن عمرو | مثقال فلس وافٍ | عشرين خروبه

Of those ordered by Aḥmad-ibn-'Amrú, weight of a fils, full weight, twenty Kharúbahs.

I have not yet identified Ahmad-ibn-'Amrú, by whose authority this weight was issued, and am therefore unable to ascribe a date to it. But in another respect it is of special interest.

The few weights of *filses* hitherto published, and to which but little attention has been paid, are all of thirty Kharúbahs, and are in some instances described as *fils al Kabír*,[1] فلس الكبير "the large fils." The weight now under consideration is described as that of a *fils*, and is then declared to be of only

[1] I am desirous of correcting an error, into which I was not unnaturally led by an imperfection in the die, in my reading of the inscription on a glass weight, No. 37, in my paper published in the Num. Chron., 1873, p. 67. I diffidently read on the imperfect die فش الديـنـر, but this, from subsequent comparison and analogy, I am glad now to be able to interpret as فلس الكبير *the large fils.* The Numismatic Department of the British Museum possesses two duplicates of this weight. The functionary, Al-Ḳásim-ibn-'Ubaid-Allah, by whose authority it was issued, was probably the minister of that name who was appointed on his father's death in A.H. 288 as his successor in the post of Wazír by the Khalífah Al-Mu'taḍid, and who died in A.H. 295.

twenty Kharúbahs, thus showing a reason why another weight is described as that of the *large fils*, and proving that there was a second recognized and authorized weight for a *fils*.

Another disc in my own collection, which I shall next describe, shows that there was a third, and—if I am not mistaken in my reading of a rather imperfect weight in the British Museum—even a fourth recognized standard weight for the *fils*.

All collectors of Kufic coins know that amongst *filses* there is a great variety in their diameter, thickness and weight, but no importance has hitherto been attached by collectors to these varieties. None of the descriptive catalogues of public or private collections of Oriental coins give the weights of the copper coins, not even the careful Marsden; though he describes one piece as a "double obolus," thus proving that he had observed a great difference in the weights of the copper coins in his collection.

No. 5. Pale green, transparent; diameter 1·25; weight 99·5 grains. E.T.R. Fig. 4.

Inscription on a square field in three lines, in very bold characters:

مثقال فلس | ثلث و ثلثين | خروبه

Weight of a fils, thirty-three Kharúbahs.

I have weighed a number of *filses* belonging to the Beni Umaya and 'Abbási dynasties, and find them varying between 37 and 100 grains, some of those of the lighter weights being apparently as well preserved as those of the heaviest.

It has been difficult to reconcile this great discrepancy in the various weights of the extant *filses* with the fact that there was a recognized standard weight of 30 Kharúbahs or a little over 90 grains.

But now that two and possibly three other authorized weights have come to light, one of 20, another of 33, and probably a third of only 14 Kharúbahs, the difficulty disappears.

I have formerly expressed my opinion that the Kharúbah

or Ḳírát was equal to 3·03 grains; and if I be correct in that inference, the four recognized weights of *filses* would be of

	14	Ḳiráṭs	equal to	42·42 grains
	20	Kharúbahs	,,	60·6 ,,
	30	Ditto	,,	90·9 ,,
and	33	Ditto	,,	99·99 ,,

I have not yet sufficient data to determine the epochs at which these various weights of *filses* existed, nor which nor how many of them were contemporaneous.

We have ourselves witnessed the reduction of the weight of our own copper currency, and have seen that even after the introduction of the present more convenient bronze coinage of Queen Victoria, not only were the earlier and heavier pieces of the same reign still current, but also the clumsy wide-rimmed pence of George III.

Still it seems remarkable that the early Muhammadan rulers should have considered the weight of a copper currency of such importance as to need glass standard weights for its verification.

Copper is so subject to oxidization and abrasion that we cannot expect to find many specimens of *filses* still preserving their original weights. But a variation of from 37 to 100 is far too great to be accounted for in that way, and I had been induced to attribute great carelessness to the mint-masters when I found *filses* weighing 100 grains, 90·9 being the recognized weight. But now that a glass standard of 99·9 grains has been found, we must rather pay tribute to their general accuracy, and attribute each extant *fils* to the category to which it is nearest in weight, allowing for the difference by corrosion or abrasion.

No. 6. Dark green, transparent; diameter 1·25 inch; weight 90·5 grains. E.T.R. Fig. 5.

Inscription in three lines:

عمر مثقال | فلس ثلثين | خروبه

'Umar, Weight of a fils, thirty Kharúbahs.

This weight appears to have lost 0·4 grain.

No. 7. Pale green, translucent; diameter 1·1 inch; weight 89 grains. B.M. Fig. 6.

Inscription in three lines:

ميزان | فلس | وافِ

Weight of a fils, full weight.

This weight seems to have lost 1·9 grain.

No. 8. Dingy green, transparent; diameter 1·1 inch; weight 90 grains. B.M. Fig. 7.

Inscription in four lines:

بسم الله | مثقال فلس | وزنه ثلثين | خروبه

In the name of God weight of a fils, its weight thirty Kharúbahs.

This weight would appear to have lost 0·9 grain.

The word which I have read وزنه *its weight*, is not very distinct; I think it might with equal propriety be read فلس قديم or *old fils*, but I leave this point to other students to decide.

No. 9. Dark, opaque; imperfect; diameter 0·9 inch; weight 37 grains. B.M. Fig. 8.

Inscription in three lines:

. . . . فلس | . . . ازاربعة | . . . سر قيراط

. . . . . *fils, full weight,* . . . . . *fourteen Ḳiráṭs.*

It does not seem quite satisfactory to make a positive deduction from an imperfect example; but the inscription on this weight, imperfect though it be, is so important that I feel bound to avail myself of the information it conveys. We find here another authorized weight for a *fils*, the lightest of all, 14 Ḳiráṭs, which would be equal to 42·42 grains. This disc in its present state weighs only 37, having thus lost 5·42 grains. Another interest attaching to it is the use of the word قيراط Ḳirát, instead of the more usual خروبه Kharúbah.

Glass Dirham-Weights.

No. 10. Pale green, transparent; diameter 0·9 inch; weight 38·6 grains. E.T.R. Fig. 9.

Inscription on square field in six lines:

بسم الله ا | مر عبدالملك | بن يزيد مئتا | ل درهم | . . . عشرد | خروبه

In the name of God, by order of Abd-al-Malik-ibn-Yazíd for the weight of a dirham . . . . . teen Kharúbahs.

The unit of the number of Kharúbahs is indistinct. This disc has lost somewhat of its original weight by friction.

No. 11. Yellowish green, transparent; diameter 0·8 inch; weight 45 grains. B.M. Fig. 10.

Inscription in four lines on square field:

ممامربه | الامير احمدبن ح | سروزن در | هم وافٍ

Of those ordered by the Amir Aḥmád-ibn . . . . . the weight of a dirham, full weight.

This weight is in good preservation, and probably originally represented 15 Kharúbahs or 45·45 grains.

No. 12. Pale green, transparent; diameter 1 inch; weight 44 grains. Mr. H. C. Kay. Fig. 11.

Inscription in four lines:

بسم الله امر | الامير | يزيد بن حاتم | مثقل درهم | ثلثين وافٍ

In the name of God, by order of the Amir Yazíd-ibn-Ḥátim, the weight of a dirham, two thirds, full weight.

At first sight one would read the word ثلثين as *thalathin* 'thirty'; but the present weight, though in perfect preservation, will not bear any comparison to thirty Kharúbahs or any other unit that might be understood. The word, however, when read as *thulthain*, 'two-thirds,' is at once suggestive; and if we regard this weight as representing that of a dirham, afterwards, for greater accuracy, described in the same inscription as *two-thirds* (*of a dínár* in ellipse), we find that it perfectly agrees with the weight of a dirham of that period, and also with two-thirds of that of a dínár of the same period.

Yazíd-ibn-Ḥátim, who authorized the issue of this weight, was appointed by the 'Abbási Khalífah Al-Manṣúr, to the governorship of Egypt in A.H. 144, which post he retained till A.H. 152. This weight was therefore probably issued in the interval.

We find many dínárs of the Khalífah Al-Manṣúr weighing 66 grains or a fraction less; of which 44 grains, the weight of this disc, would represent two-thirds.

The word مثقل is written without the ا; but whether we regard this omission as effected by the licence adopted by early Arabic writers, *e.g.* دينر for دينار, etc., or look upon the word without the ا as another part of the same verb, the meaning would be virtually the same: thus, مُثْقِلٌ *that which equals a weight*, and مِثْقَالٌ *a weight.*

Thus we have three recognized weights for the dirham. Firstly the seven-tenths of a dínár, as given by historical records, and proved by extant specimens, as well as by glass weight No. 11, to be 45 or 45·5 grains; secondly, the glass weight No. 12, described as a dirham, two-thirds of a dínár, or 44 grains; and thirdly, glass weight No. 10 (and No. 38 in my former paper, Num. Chron. 1873, page 68; see fig. 12), described as thirteen Kharúbahs=42·4 grains.

Glass Dínár-Weights.

No. 13. Brown, transparent; diameter 1 inch; weight 65·3 grains. A.H. 96. E.T.R. Fig. 13.

Inscription in three lines:

طبع الد | ينر سنة ست | وتسعين

Stamp of a dínár in the year 96.

I believe this to be the earliest known example of a glass dínár-weight. The four strokes at the beginning of the last word, being of equal height, the word may be read تسعين or سبعين 90 or 70; but I am quite satisfied to adopt the 90, and consider it remarkable that this disc should still, after a lapse of nearly 1200 years, represent the weight (perhaps

varying two-tenths of a grain) for which it was originally intended.

No. 14. Pale green, transparent; diameter 1·2 inch; weight 65·4 grains. A.H. 124–126. E.T.R. Fig. 14.

Inscription in eight lines:

بسم الله | امر الله بالو | فاوامر الامير | حفص بن الوليد | بطبعه مثقال
دينر | وافٍ على يدى يزا يد بن . . . . | . . . .

In the name of God, God ordered full payment, and the Amír Ḥafṣ-ibn-al-Walíd ordered the stamping of this weight of a dínár, full weight, by the hands of Yazíd-ibn- . . . . .

This Ḥafṣ-ibn-al-Walíd was in A.H. 105 appointed Prefect of Police in Egypt, under the Governorship of Muhammad-ibn-'Abd-al-Malik. He occupied that post also under Al-Húrr-ibn-Yúsuf, and in A.H. 108 was appointed Governor of Egypt, but was quickly dismissed owing to an intrigue instigated by 'Ubaid-Allah-ibn-al-Ḥabḥáb, then Minister of Finance. He was, however, re-appointed in A.H. 123, and in A.H. 124 was also charged with the Finance, which posts he held till A.H. 126. He was appointed to the same posts in A.H. 127; as, however, this third appointment was only held for a short period, we may consider this weight was issued between A.H. 124 and A.H. 126.

No. 15. Pale green, transparent; diameter 0·8 inch; weight 21·9 grains. A.H. 124–126. E.T.R. Fig. 15.

Inscription in seven lines:

بسم الله | امر الله بالو | فاوامر الامير | حفص بن الوليد | بطبعه
مثقال | ثلث دينروا | فِ . . .

In the name of God, God ordered full payment and the Amír Ḥafṣ-ibn-al-Walíd ordered the stamping of this weight, the third of a dínár full weight.

This weight of a third agrees very nearly with a third of that of a dínár-weight, No. 14, struck by the same authority.

No. 16. Pale green, transparent; diameter 1·15 inch; weight 66 grains. A.H. 143–154. B.M. Fig. 16.

Inscription in four lines:

بسم الله | امر الامير | يزيد بن حاتم | مثقال دينر

In the name of God, by order of the Amír, Yazíd-ibn-Ḥátim, the weight of a dínár.

This weight is the confirmation of an observation I made in reference to No. 12, the weight of a *dirham*, 44 grains, described as *two-thirds*, the dínár of 66 grains being the standard; and both are issued by the same authority.

No. 17. Pale green, transparent; diameter 1·1 inch; weight 65·5 grains. A.H. 158–169. B.M. Fig. 17.

Inscription in six lines:

بسم الله امر | المهدى محمد | امير المو منين | امتع الله له | مثقال دينر | وافٍ

In the name of God, by order of Al-Mahdy-Muhammad, Commander of the Faithful (May God grant him long life) the weight of a dínár, full weight.

This weight agrees exactly with that of the ordinary full weight of a dínár, 65·5 grains, as proved by the average of the best specimens extant in various collections.

The inscription is remarkable in the parenthesis invoking a blessing on the Khalífah.

No. 18. Pale green, transparent; diameter 0·7 inch; weight 21·8 grains. (A.H. 295—320?) E.T.R. Fig. 18.

Inscription in five lines:

بسم الله | امر المقتدر | امير المو منين | مثقال ثلث | وافٍ

In the name of God, by order of At-Muḳtadir? Commander of the Faithful, the weight of a third, full weight.

Here we have the weight of a *third* weighing 21·8 grains, which multiplied by three gives us 65·4 grains for the weight of the standard unit, which we are forced to admit to be the *dínár*. This is, therefore, my justification for supplying the

word dínár as the ellipse in the dirham-weight No. 12, which is described as *two-thirds*.

The above dínár-weights, extending over a period of more than two centuries, show very slight variations, proving that the *dínár* or gold coin was the standard of currency and of monetary weights. The silver currency represented by the dirham varied slightly from time to time; and the copper represented by the *fils* varied to the extent of a hundred per cent., but the dínár retained very nearly, and probably exactly, the same weight throughout that period, excepting during the reign of Al-Manṣúr, when it was increased by half a grain.

Larger Weights.

No. 19. Dark green, transparent; diameter 2·4 inches; weight 1143·3 grains. Slade Collection, B.M. Fig. 19.

Nearly circular, on a square field of 1·1 inch is an inscription in four lines:

مما امر به الا | مير احمد بن | حسر ربع ر | طل وافٍ

Of those ordered by the Amir Ahmad-ibn-Jubair (?); the quarter of raṭl, full weight.

The raised margin around the field is irregularly marked by some instrument or tool.

I think there can be no doubt as to the reading of the words ربع رطل *quarter of a raṭl*, although the ر of the word raṭl is indistinct. This word *raṭl* is a generic term for a heavy weight, but it has always been used also for a specific weight, though varying from time to time and contemporaneously, in different places. Thus in Egypt, at the present day, the *raṭl* is about equal to an English pound avoirdupois; while in Syria it is equal to about six pounds and a half. Kazimirsky correctly describes its second meaning as "*un poids qui varie selon les pays.*"

The Uḳíyah or ounce of the present day in Egypt is the twelfth part of a raṭl, and weighs, according to Mr. Lane's calculation (Modern Egyptians), from 571½ to 576 English

grains. This disc weighs exactly twice 571½ grains, or two uḳíyahs. May we not, therefore, accept it as the equivalent of two uḳíyahs, and infer that at the period of its issue the raṭl contained only eight uḳíyahs, instead of twelve as at present?

No. 20. Rich dark blue, transparent; diameter 1·5 inch; weight 171 grains. Slade Collection, B.M. Fig. 20.

Inscription in three lines, with two crescents above, and two stars below:

بالله | جعفر بن سليمن | يثق

In God Ja'far-ibn-Sulaimán confides.

Ja'far-ibn-Sulaimán was a very important personage during the reigns of the Khalífahs Al-Manṣúr, Al-Mahdy, Al-Hády, and Ar-Rashíd; having been successively governor of Al-Madínah, al Baṣrah, and other important places.

Amongst the small but valuable collection of Lord Talbot, in the British Museum, and in my own collection, there are many other very interesting glass weights; but as the inscriptions they bear refer generally either to the Khalífah or other authority by whose order they were issued, without stating the purpose for which they were made, I must for the present postpone the pleasure of describing them, as they would not throw any definite light on my arguments.

P.S. Immediately on my arrival in Cairo last week, I was visited by several dealers in coins and other antiquities, from whom I have, from time to time, made purchases for many years past. One of them had in his possession a glass disc, which I at once recognized as belonging to the category of stamps on measures of capacity above described. I purchased it and added it to my collection. It is of green glass, transparent, and bears the following inscription in five lines:

بسم الله | امر الامير | محمد بن (بشر؟) | نصف قسط | وافٍ

In the name of God, by order of the Amír Muḥammad, son of (Bashr?), half a Ḳisṭ, full measure.

I afterwards paid a visit to my friend, Yacoub Artin Bey, and was much pleased to find in his possession another stamp of the same description. It is also of green transparent glass, with the following inscription in five lines :

مما امر | به عبيد الله | بن الحبحاب | قسط وا | ف

Of those ordered by 'Ubaid-Allah, son of Al-Ḥabḥáb, a Ḳist, full measure.

These two discs added to those above described form a complete series of *quarter*, *half*, and *whole ḳist*. That belonging to Yacoub Artin Bey bears the name of the same functionary, by whose authority was issued the quarter-ḳist in the Slade collection ; but the latter is the only one yet discovered bearing the date of its emission.

I have made inquiries here as to the present use of the word ḳist as applied to a measure of capacity ; and find that the vessel used for dipping into the oil-jars is called قسط الزيت *the oil-kist*, or *the cruize of oil*, but it is of no specified size ; and the word is obsolete as applied to any fixed measure of capacity.

E. T. R.

Cairo, *June* 8, 1877.

Art. V.—*China viâ Tibet.* By S. C. Boulger.

One of the stipulations contained in the Convention recently signed at Che-foo by Sir Thomas Wade, and the Chinese statesman Li-Hung-Chang, sets forth that a mission is to be sanctioned between China and India through Tibet; or, to state this fact more comprehensively, that intercourse between India and Tibet has at last received the Imperial consent of Pekin. To those persons who are sceptical as to the amount of faith to be reposed in written agreements between nations, there can be no more potent confirmation for their disbelief than the perusal of those made hitherto between this country and China. Yet it must be confessed that, in this, our own lethargy has been quite as much to blame as the Chinese diplomatic craft in neglecting to fulfil promises, which we have seemed content to let remain empty words. The treaty just signed as the consummation of the long-pending negociations arising from the murder of Mr. Margary supplements that of Tientsin made some seventeen years ago. In its phrasing it may not be more liberal, but, as it has been obtained by peaceful means, it has claims, so far, to be considered the greater success. A few more ports have been added to those to which the foreigner is already admitted, but some of its fiscal details have, for some reason or other, excited considerable disapproval among those interested in that part of the question. It is not my intention here to dilate upon the justice or injustice of these dissentients. It is my opinion that we have now very seriously to consider, whether it would not be a wiser course for us to regard the vital clauses of this agreement as worth an effort to enforce, than by a temporarily self-deluding, but culpable indifference, to continue to hand down a legacy of convention-framing, with the possibility of

an ever-present war as the result of a failure in diplomacy, to succeeding decades. On this occasion, we have one pre-eminently favourable concession made to us; but, if it is not to become, practically, a dead letter, like so many of its predecessors, there must be no delay in putting it into execution. The abrogation of this clause must not be condoned by too lenient custom, and its observance may, at all events, be made to serve as a useful precedent in the future. I do not think, therefore, that I shall be endeavouring to draw public attention to an unimportant topic, if I venture to state, at some length, the reasons for which it is wise and politic to realize the advantages our diplomatist has secured for us with reference to Tibet. I do not hesitate to assert, in the commencement, that this can be made the most valuable concession we have ever obtained at the hands of the Chinese.

It is not necessary here to waste time and space on any details of the lonely journey of Mr. Margary, or of the fruitless expedition intended to promote land communication with China through Birmà. The actors in that unhappy catastrophe may exclaim, "quæ regio in terris nostri non plena laboris." The motives that gave rise to that enterprise were most laudable, but the narratives of Dr. Anderson, and of Mr. Margary himself, setting forth the difficulties of the enterprise and the poverty of the part of China immediately concerned, the accuracy of which has been more than confirmed by the Grosvenor mission, must certainly damp the expectations of those who were most sanguine as to success. Perhaps also the chief objection has not yet been stated to this route. The country through which the caravans would have to pass is in many parts unsettled, and infested with bands of robber clans, unamenable to any authority, and outrages would repeatedly take place for which we should be compelled to exact redress. The punishment of such acts would entail so much expense and worry on our Government that the only remedy would eventually be found, either in giving up our own operations, a course which would be found practically impossible, or in

annexing the intermediate territory, an alternative as objectionable as it well could be. If no other way of securing direct land communication with China can be found, then the end in view may justify the risk attendant on an adoption of this route; but as we have ready to our hands another mode of securing this most desirable advantage, and offering at the same time great recommendations of its own, there can be no question of our wisdom in putting its efficacy to the test. A trade with Tibet, and with China afterwards through Tibet, would not be accompanied by any of the dangers incurred on the route through Birmâ. The Tibetans are a peace-loving, honest people; they possess great virtues, and, so far as we know, few vices. Their country is settled, has been well governed for ages, and in it there are good roads and important river highways. Beyond our frontier there are no robber clans, who would cause us continual trouble until extirpated, and enact the same part as the Afreedees are performing, much to our annoyance, at the present time on our north-western borders, and which the Kakhyens would also perform in the event of traffic beyond Mandalay. Consequently, one of the chief arguments in favour of the Tibet route to China is, that, in its essence, it would be a peaceful measure, and that it would require less direct interference on the part of the Government than any of its rivals. It would exist, I submit, having once been fairly started, on the true principle of reciprocity of interests. At any time a war with China is a pitiable calamity, and none are better aware of the truth of this than those, who know how close we have, at several moments lately, been to one. One of the sure results of such an occurrence would be the occupation by us of more territory, and, however advantageous in a strategical point of view the possession of an island or another strip of land might be, this would be an unmitigated catastrophe for the true interests of both countries. Not only does each acquisition leave a permanent object to remind every loyal and patriotic Chinaman—and, be it remembered, loyalty and patriotism are quite as great virtues among Chinamen as among Englishmen—that we

are on his soil as much as conquerors as merchants and representatives of the most enlightened ideas of civilization; but it also adds, indefinitely, to our own responsibility, without making our power one iota more real. Regarded from this point of view the possession of Hong Kong and Shanghai is an evil, however necessary in the past it may have been, and however salutary in the future the turn of events may make it. To explain my meaning more clearly, let us take an illustration. The Americans and Germans have great interests in China; and it is quite possible, perhaps probable, therefore, that some day or other a cause of dispute may arise between those powers and the Chinese. A war might ensue, and part of the terms of peace dictated by the conquerors would, almost certainly, be the cession of some permanent foot-hold on the country. This event, to which we have ourselves unfortunately furnished the precedent, would not only displease, it would also seriously alarm us. And why? In all probability it will occur some day, and what have we logically to advance against it?

To avoid war with China, and at the same time to maintain our dignity in the eyes of the Chinese, requires no ordinary amount of tact and firmness on the part of our resident minister in Pekin; but this object can only be permanently secured by an increase in friendly feeling between the two peoples, and friendly feeling cannot arise without mutual knowledge. As the time has passed by in the present phase of Anglo-Chinese affairs for those who argue for an addition to our hold upon China, so must every effort be made to take the greatest possible advantage of the present settlement to promote good feeling, and to increase the ties of friendship and of reciprocal utility between the English and the Chinese. The greatest incentive to war will have been removed when ignorance shall have given place to greater knowledge, and when the inhabitants of the innermost provinces of that great empire shall recognize the white man, whom they contemptuously designate "foreign devil," and who they have heard is tolerated in some of their seaports, as their most powerful and immediate neighbour.

When the people of Szchuen and Shensi wear Manchester goods and use Sheffield cutlery, when they are forced to acknowledge that honesty is the guiding principle of English merchants, and when, on the other hand, the caravans bearing the silk and tea of China come pouring, in half the time and at half the expense that they do at present, through the passes of Sikhim and Bhutan, to enrich the markets of India, then we may well feel confident that the Chinese people, who are, even at this moment, progressing so rapidly towards more enlightened ideas, and whose virtues we have hitherto to a great extent shut our eyes to, will be more eager to recognize our position with regard to themselves, for this perception will have been brought home to them by the most forcible of all arguments, benefit to themselves. Our object is not, therefore, to rest content with having obtained the removal of trade restrictions from a few additional ports; it must be our ambition to make China take her place as one of the great free countries of the world. The greatest step in this direction being, undoubtedly, the inauguration of intercourse by land between India and China, we have to discover how this can best be effected. The route through Birmà having been tried, and resulted in seeming failure, we have to consider the alternative one through Tibet. As the Chinese have removed their veto, which was the fundamental objection to its being essayed, it behoves us to test its practicability without any unnecessary delay. The clause expressing this concession is not only a most important diplomatic success, but it may also be made to serve, as I have endeavoured to show, the beneficial purpose of bringing the two nations into more harmonious accord.

Before describing, so far as our limited knowledge will permit, Tibet and the country lying beyond towards China, it will be advisable to give some account of our relations with the semi-independent states which are on our side of the Himalaya. First among these, both in right of its power and extent, is Nepaul, the kingdom ruled by the gallant Ghoorkas, the bravest and most warlike of all the mountaineers of

Hindostan. In the question, however, under our consideration, its geographical position, lying as it does much out of the direct road for us to Tibet, makes it of less importance than the smaller territories of Sikhim and Bhutan. Nepaul stretches along the southern slopes of the Himalayas from the borders of Sikhim on the east, to the River Kalee and the neighbourhood of Kumaon on the west, or about 500 miles in all; at its greatest breadth it is only 100 miles. The greater part of the country is covered with forests, which abound with wild game, and are well known to those sportsmen who can obtain the requisite permission to shoot in them. The country is extremely mountainous, and within its confines the Himalayas attain their greatest altitude. But, on the other hand, the low lands are fertile, and the two chief towns, Khatmandoo and Ghoorka, are fine, well-populated cities. Impartial observers estimate the total population at about 2,000,000, but the native accounts place it at a much larger figure. In trade the greater portion of the energy of the community is devoted to transactions with Tibet, and intercourse, although not yet heartily cultivated, with Bengal, is now gradually being freed from restrictions of various kinds. In the earlier years of our rule in India our relations with Nepaul were not free from trouble; but latterly, owing chiefly to the friendly policy, not incompatible with the maintenance, however, of an isolated position, of the late Jung Bahadoor, the prime minister and most powerful individual in the country, our friendship has been uninterrupted. We may learn from the events that have occurred between Nepaul and China an instructive lesson, if we will. Nepaul is nominally a tributary of China, and, if we turn to history, we discover that this suzerainty has been in fact maintained down almost to the present day. If we go back to the year 1791, we find that the Ghoorkas, not content with having formed a great and powerful State on the slopes of the Himalayas, had carried their victorious arms into Tibet, and, after ravaging the intermediate country, had entered Lhasa in triumph. After imposing an indemnity of three lacs of rupees, they

returned with much booty besides to their own country. But a Chinese army was despatched after these invaders, and on coming up with them, overthrew them in several engagements, recovered the indemnity and much of the spoil, and successfully reasserted the right of the Pekin Emperor to homage from the rulers of Khatmandoo. The hitherto successful Ghoorkas were compelled to entreat our Government to intercede for them with the conqueror, but although Lord Cornwallis's compliance was the chief cause of their escaping without further loss, all his efforts failed to promote a friendly feeling in the breasts of the Nepaulese. Once more, so late as 1856, on the occasion of a war between Nepaul and Tibet, did the Chinese compel the former to acknowledge their suzerainty, and, at the present time, the connecting link is still maintained. After the return of the Ghoorkas from the former of these expeditions, they resumed their aggressive operations on Cis-Himalayan territory, and with such success that our own susceptibilities were aroused. On the Nepaulese declining to accede to our terms, the wars of 1814-15 ensued, during which we suffered some slight reverses at the commencement; but Sir David Ouchterlony, by a series of brilliant movements, compelled the enemy to sue for peace, and to restore much of his recent conquests. By the cession of Kumaon, Nepaul was reduced to its present limits. The treaty ratified in 1816 still subsists between the two countries, and the friendly spirit shown towards us by Jung Bahadoor was more unequivocally demonstrated than in verbal protestations by the despatch of a Ghoorka contingent to our assistance during the Mutiny of 1857. This aid received the reward from our Government of the cession of the Terai. On his visit to this country at the time of the Great Exhibition, this sagacious ruler had doubtless formed accurate notions as to our true strength, while his personal feelings had been flattered by the fêtes of the great and by the cordial reception of the people. No mention of Nepaul would be adequate if nothing were said of those gallant mountaineers, who, leaving their native mountains, take service in our army, and are known as the best speci-

mens for activity, courage and endurance of the Anglo-Indian native forces.

To the east of Nepaul is Sikhim, a narrow strip of territory, ruled nominally by a Rajah, but under British protection, and forming practically part of our dominions. Prior to the year 1814 its independence was precarious in the extreme, wedged in between its two more powerful and warlike neighbours of Nepaul and Bhutan. At the time that the aggrandization of Nepaul seemed to us menacing, we took this little State under our protection, and in 1836, in return for an annual grant of £600, the Rajah ceded to us the district round Darjeeling, where are now the pleasant settlement and tea plantations so well known to every resident in India. But the grant was declared to be forfeited in 1850, on account of some outrages perpetrated on British subjects, for which no sufficient reparation could be obtained. Besides possessing a conterminous frontier with Tibet in Sikhim, which is to all intents and purposes British territory, we have also come into direct contact with Tibet in the Chumbi Valley, recently ceded to us, and of which mention will be made further on. On this question Sikhim is, by its position, of far more importance to us than Nepaul; and among its chief recommendations, the possession of the three good passes, Kongra Lama, Donkia, and Parijong, may be mentioned. The last of these was the one used by Mr. Bogle, Captain Turner, and Mr. Manning, in their respective journeys.

Bhutan, or Bootan, the country of the Deb Rajah, the independent State lying still further to the east, shares with Sikhim the place of the most importance in considering our road to China through Tibet. As with Nepaul and Tibet, so with Bhutan, have our trade and general intercourse been insignificant in the extreme, and our political relations have been even more troublesome than they have been with Nepaul. In fact, to a war with Bhutan may be traced our first acquaintance with Tibet. In 1772 the mountaineers of Bhutan had been pillaging the plains of Cooch Behar, and some alarm had been caused by their

irruption in the contiguous parts of Bengal. A small expedition was, in consequence, despatched against them by Warren Hastings. The Bhutanese were driven back to their fastnesses, routed in the battle of Chichakotta, and compelled to beg the Teshu Lama of Tibet, whose influence extended into the regions of these mountaineers, to come to their assistance. This potentate, an enlightened and kind-hearted man, so far listened to their entreaties as to send an embassy to Calcutta asking Warren Hastings to grant terms to the defeated Bhutanese. The Governor-General, anxious to conciliate his interesting neighbour, and perhaps struck by the simple-minded dignity manifested in the tone of the Teshu's letter, readily granted his request, and, at the same time, seized the favourable opportunity of sending a return mission, which he placed under the charge of Mr. George Bogle. That gentleman reached the town of Shigatze in safety, and resided some time at the great Lamasery of Teshu Lumbo; but, notwithstanding the great friendship he contracted with the Teshu Lama, all his efforts proved abortive to obtain the permission necessary for his entrance into the capital Lhasa, although that city was but a few miles distant. Possibly through apprehension of sinister intentions on the part of the English Government, possibly through jealousy of the Teshu, on the part of the all-powerful minister the Gesub Rimbochè, Mr. Bogle, after many fruitless overtures to remove the official objections raised to his further progress, was compelled to return to Calcutta without attaining his chief object. He had not succeeded in reaching Lhasa, he had not seen the Dalai Lama, or his potent minister, and therefore he had not been in any way able to pave the path for future negociation. It must not be supposed that Mr. Bogle was in any sense blameable for this unsatisfactory result. Like many before him, and since, he was baffled by the phlegm and stolidity of the Chinese Mandarins. I simply make this statement as showing the exact result of his—the only—mission to Tibet.

But to return to Bhutan, we were again compelled in 1837 to have recourse to violent measures, and as some com-

pensation for the non-payment of its tribute, we took possession of several tracts of their low country. Once more, in 1865, an expedition had to be despatched against them, and, although the first engagements were disastrous for our forces, these were soon retrieved, and the war concluded with the cession of the Chumbi Valley. This acquisition was most important, for it gave us a direct approach to Tibet, and placed in our hands one of the first essentials towards effecting intercourse with that country. It must be borne in mind that the Bhutanese are averse to us personally. They are shepherds, hunters, and warriors, and they have the great virtues of honesty and courage; but they fail to perceive the advantages of commerce. Their virtues, in themselves so worthy of approval, cause them to be to us a source of never-ending trouble. If they were less warlike, and more reconciled to sedentary occupations, time might accustom them to our habits and our empire; but as they are too brave to be cowed by threats alone, and too wedded to a life of independence to brook without murmur its loss, we find the solution of the difficulty with them not easy to be discovered. The opinion of those who are well informed in the matter that Bhutan must share the fate of its neighbour Assam, seems to express the course that will eventually have to be adopted.

Having now discussed our relations at the present moment and in the past with those border states through which caravans would have to pass *en route* for Lhasa and Western China, it may be as well to say something about the passes through the great northern barrier of India. The town of Tassisudon, the capital of Bhutan, is about 7000 feet above the sea, and Parijong, on the other side of the frontier, is about the same. The Parijong pass, of which we know most, is available for traffic throughout the year, and presents no serious obstacle at any period. Besides this, there are the Donkia and the Kongra Lama passes, which, so far as we know, are equally passable at all times. There are numerous others along the whole border. It is beyond dispute that there is no such formidable country in this direc-

tion as that passed through by the Yarkand Embassy north of Kashmir. Both Mr. Bogle and Mr. Manning travelled late in the year, but the inconvenience they suffered seems trivial to those accustomed to journeys in elevated regions. The pundits, who have recently been employed by the geographical department of the India Office in making explorations, have thrown considerable light on the topography of Tibet and Nepaul, but it cannot be disputed that much still remains to be done in this direction. It is safe to assert, however, that the roads to Tibet present no insuperable difficulties. Our best road to Tibet lies undoubtedly through Sikhim and Bhutan; but it is quite possible that greater experience may prove that the most advantageous route of all to China lies through Assam, and across the extreme edge of the Himalayas. This route, if found to be practicable, offers the shortest and most direct highway to China. While the distance from Lhasa to Singan-foo is 1100 miles, Rungpoor is only 600 from Mahou-foo, on the Yangtse, whence that river is navigable to its mouth.

The following table of the chief passes may prove useful. In Bhutan we have no definite information as to any practicable passes. Pemberton says that those by the Monass River are probably the least difficult. In considering these altitudes we must remember that the snow-line is exceptionally high, being about 14000 feet south and 16000 feet north of the range. A striking instance of the mildness of the atmosphere is seen in the fact that Sir Joseph Hooker found roses growing in the valleys at almost 13000 feet above the sea; and in the Tibetan table-land corn is sown at still loftier altitudes.

Jeylup	Chumbi Valley	nearly	16000 ft.
Parijong	Between Sikhim and Bhutan	„	16000 ft.
Kongra Lama	Sikhim	„	15700 ft.
Donkia	„	„	17500 ft.
Dangola	„	„	17000 ft.
Sebolah	„	„	17500 ft.
Tunkra	„	„	16000 ft.
Tankrala	„	„	16200 ft.
Jelep la } leading to	„	„	13000 ft.
Yakla } the	„	„	14000 ft.
Chola } Chumbi Valley	„	„	15000 ft.
Lagulungla	Nepaul	„	16000 ft.

Wallanchom	Nepaul	nearly 16700 ft.
Nola	,,	,, 16600 ft.
Photula	,,	,, 15000 ft.
Gala	,,	,, 16700 ft.
Taklakhar, in the gorge of the Karnali	,,	,, 17000 ft.
Choonjerma	,,	,, 15250 ft.
Kambachen	,,	,, 15700 ft.
Hatia Pass (or the Arun River)	,,	,, 16500 ft.
Kirong	,,	,, 17000 ft.

The last-named pass is the most important of all the Nepaulese passes, and a very considerable amount of merchandize enters Tibet by it throughout the year.

I stated that after Mr. Bogle's Mission, Tibet was left undisturbed by English enterprise for a number of years, and that interval might have been indefinitely prolonged but for the energy and daring of Thomas Manning. Mr. Clements Markham has, in a recent work, resuscitated the names of these two almost forgotten explorers, and has, besides, given us a most instructive and interesting account of the country, to which all must turn who wish for accurate information about Tibet.

While Warren Hastings and Mr. Bogle simply aimed at promoting friendship with Tibet, Mr. Manning only turned his steps in that direction in order to obtain admission into the interior of China. During several years' residence at Canton he had kept this idea prominently before him, but all his entreaties to induce the local mandarins to accede to his request, and all his stratagems to elude their vigilance, had proved unavailing. Despairing at last of success from Canton, he resolved, nothing daunted in his purpose, to resume operations from a totally different quarter. He sailed accordingly for Calcutta, and, crossing the Himalaya as a private individual, without any Government mission, much to his private chagrin, entered Tibet in the year 1811. Trusting solely to his acquaintance with the Chinese language and customs, he visited alone, and without any safeguard, the mysterious regions of Tibet. That he succeeded in reaching Lhasa; that he was also permitted to reside there for a considerable time, during which he acquired a great reputation among the people by his skill as a physician; that he was received in audience by the Dalai Lama, of

whom he has left, in the fragments of his journal, a most vivid description; are facts which best show the merit of this most courageous gentleman. Had his papers not been lost at sea some years later, he would undoubtedly have left us the most important information on this interesting country. But even he was unable to accomplish his chief object, that of entering China, and, after much useless negociation, he was obliged to give up his design and return to India. Since then the French missionaries, Huc and Gabet, have seen the Dalai Lama and have resided in Lhasa. They share with Mr. Manning the honour of being the only Europeans who have beheld that distinguished and saint-like personage.

Tibet is called Tsang by the Chinese, and is said to be extremely rich in minerals, although it is certainly poor as a vegetable-producing country. Among its chief recommendations Mr. Manning mentions that "excellent mutton can be obtained daily." To the intelligent observer the people present many features of interest. They are a simple-minded, honest, quiet people; yet they possess a fairer share of courage than most Asiatics. With a decided preference for an uneventful, safe, monotonous sort of existence, they are still not afraid to fight in defence of their belongings. Like most civilized people, they are grateful if the occasion does not arise. They are far from being cruel in their disposition, they are clean, for Asiatics, in their person, and they live one among the other in a homely way without unnecessary quarrelling. They obey the edicts issued from Pekin, they contribute their quota to the Imperial expenditure, and they respect the mandarin at the head of the military stationed in each town. This official, as a rule, does not abuse his power, and confines himself to his own province, leaving the people to jog along in their own quiet fashion in accordance with the precepts and examples of their lamas. It has been computed that there are 60,000 Chinese troops stationed in Tibet, but I confess that this seems to me an exaggerated figure; indeed, it is most probable that not more than 10,000 are required as a permanent guard for the frontier. A large trade is carried on

with China, and, while most of the merchants only go as far as Singan-foo, there are some who proceed to Hankow and Pekin. There is a good main road along the Tibetan table-land to the first of these places, whence the network of roads, for which China is justly famous, branches out in all directions. But during the winter months the weather here is terribly severe, and the roads are simply impassable. The Teshu Lama of Mr. Bogle's time, some years after the departure of our representative, received an invitation from the Emperor to proceed to Pekin, and being caught by winter in the exposed plateaux north of Lhasa, was compelled to halt for three months on his journey until the return of spring once more made the roads in a fit state for travelling. There is, therefore, no easy road even in this direction to China, and it must clearly be understood, that although good roads and security to life and property exist in Northern Tibet, during the winter months all intercourse will have to cease. This route must therefore be labelled "during fine weather only." There is fortunately good reason for supposing that trade and intercourse with Southern Tibet are not fettered by the same objection. The direct access that, even by this way, would be obtained with some of the least known and reputedly richest of Chinese provinces during many months of the year, could not fail to produce great results, and, quite apart from the question of commercial success that should be attained, the commencement of political and general relations with Tibet might with some justice be termed the most interesting event that had taken place in Asia for some time. In Tibet may not only be found the key of Chinese history and institutions, but also evidence of many kinds throwing light on matters that have been puzzling to the antiquaries and historical students of our own Eastern possessions. I may be permitted to call attention to the description of Tibet from the pen of Father della Penna, given in an Appendix to Mr. Clements Markham's work, for, taken as a whole, it is one of the most instructive *résumés* of that country. It is possible that it may have suffered the fate that usually befalls all matter

consigned to an Appendix, and been overlooked. No one can arise from a perusal of any of the works mentioned, or indeed from any other on Tibet, without experiencing an increase of respect for the Chinese. We cannot help acknowledging that their political system must be based on a foundation of true justice, since they have been able to govern Tibet for centuries with lenience and without difficulty. If they have been strict in maintaining order, they have at the same time tolerated the prejudices and customs of their subjects. They have indeed included them in the Chinese empire, but they have made the connecting link one of affection and mutual respect. We have a not less striking instance of the immense *prestige* of the Chinese Government in the fact that it has, in recent years, been able to assert its suzerainty over such far-distant tributaries as Nepaul and Bhutan. If we contrast with its weight and influence in these states our own, which are so near to them, and under whose direct influence they exist, we shall find not only food for cogitation, but real cause for admiration of the Chinese. The country that can exercise so wide a charm and fascination must needs possess some merits of a supreme degree. If the assertion of this will impress on some of us a greater respect for the Chinese, and if the study of their rule in Tibet will make us appreciate the fact that the Chinese are not to be set down as mere Asiatics, we shall have done something on our side, it might be said something of our duty, towards effecting a permanent reconciliation between the two peoples. Those who care to devote some of their leisure to the study of Tibet will find even in the meagre literature at their disposal much to interest, instruct, and improve them.

It is impossible to consider this question without taking into consideration another power besides the two directly concerned; it is impossible to follow out this proposition of an embassy to Lhasa to its logical conclusion, intercourse by land with China, without having the Russian empire brought into the argument. Russia's intercourse by land with China dates back to the days of Peter the Great. She has always been

treated on the footing of the most friendly nation; but, during the last ten or fifteen years, her efforts to force merchandize and friendship on the Chinese have been more persistent. While our trade has taken the roundabout line of the Straits of Malacca, Russia's has passed through the rising town of Ourga to Pekin. Alarmists may be frightened at the idea of our crossing our natural frontier in pursuit of a trade chimera, and entering upon an undertaking which must create fresh rivalry between Russia and this country. It may be sufficient answer to such persons to point out that between our routes lies the vast and impassable desert of Gobi. While our road would bring us into some of the richest of the provinces of the Chinese Empire, hers enters the same empire, under less favourable circumstances, many hundreds of miles to the north. The encounter must take place, therefore, if anywhere, in the heart of China, in the streets of Pekin or the bazaars of Hankow; just as at the present day Germans and Americans keenly dispute with us, and contest our right to precedence, in Shanghai and Foochow. There is not much risk, therefore, from our seeming to enter into a fresh contest, by opening up land communication with Tibet and China, with a nation with which we have already sufficiently numerous points in dispute, like Russia. Undoubtedly our merchandize will be placed on a more equal footing with that of Russia, and the consequence will be that, if our goods are cheaper and better, Russian merchants will suffer from the competition, and perhaps the Government will be compelled, by sheer necessity, to give up the restrictive commercial policy followed with such rigour throughout the whole of Asia. This may all occur, but, under any circumstances, it must take place some day or other, and the chief person benefited by it will be the Chinaman. We must regard in this case simply our own interests and our connexion with China. We of course wish naturally to promote the former, and we are now desirous of cementing the latter. The chief purport of this paper is to show that the surest precaution against misunderstanding is to be found in an increase of mutual knowledge, brought to pass

by legitimate means. We have obtained from China a concession, of which it will cost but little to test the practical value. Even if the result should prove disappointing, which would be very surprising, a mission to Lhasa would not occasion much outlay. If we could obtain the right to have a resident agent there, it would be additionally advantageous. Judiciously selected presents for the Dalai Lama and his minister might produce great results, and with tact on the part of our representative, who should, above all things, possess intimate acquaintance with Chinese etiquette, all would probably proceed satisfactorily. It might be wise not to arouse susceptibilities, which we know are tender, by attempting too much, and therefore it would be preferable to remain contented with intercourse with Tibet alone, for some time, until the more extended arrangement with China might at length take place, imperceptibly and as a natural sequence. Whatever our Indian and Foreign Offices may determine on, whether they confine their decision to a mission of amity to Lhasa, or to a fresh embassy to Pekin, viâ Tibet, the evils of delay must be impressed upon them both. If we are really to attempt to resume negociations with Tibet, if we are to make some provision for perpetuating good feelings in the future between China and England, we must not refuse to avail ourselves of the advantages of our position, or of those secured for us so recently by Sir Thomas Wade. We must, if we are not to sink once more in the estimation of the Celestials, by a little well-timed action, keep the fact prominently before them of our presence in Asia as a great power. In Asia we must speak and act as the Emperors of India.

To sum up briefly on the question. The difficulty in reaching Tibet is no insuperable obstacle; the route beyond is safe, and, probably, also, easy during nine certain months; the prospects of commercial success seem satisfactory; there is little danger of political complications arising; and there is no risk whatever of our being induced to add to our dominions. If successful, it will not only serve to form amicable relations with a new and highly-interesting country,

but it may also tend to increase those at present existing between England and China. In a political point of view it will also strengthen our hands immeasurably, for on the sea-coast we must always meet rivals in other civilized nations, here we should be alone. The prospect, I think, must be admitted to be very promising, and only requires a little vigour, to be put out of the realms of possibility into those of fact. Our rulers must, indeed, first show the way, but the conclusion of the matter rests only with ourselves.

ART. VI.—*Notes and Recollections on Tea Cultivation in Kumaon and Garhwál.* By J. H. BATTEN, F.R.G.S., Bengal Civil Service Retired, formerly Commissioner of Kumaon.[1]

THE cultivation of Tea in Kumaon has become so important and profitable, that it is interesting to trace the early history of this industry; and the duty of placing on record as true an account as possible of its introduction, rise and progress, is one which ought not to be neglected by those who are acquainted with the real facts; yet, after all, there is not very much to be told, even by those in full possession of all the *data*, when they show that, in this case—belonging, as it does, in an especial manner, to the best interests of British India—the seed of the sower "fell upon good ground, and yielded fruit, some an hundred-fold, some sixty, some thirty."

Its history, however, may be conveniently and naturally divided into periods, comprising the seasons, *first*, of ignorance and indifference; *secondly*, of guessing and conjecture; *thirdly*, of the first actual official experiment; *fourthly*, that of regular government exploitation; *fifthly*, of the commencement and progress of private enterprise; *sixthly*, of the abandonment of the official experiment; and *lastly*, of the commercially successful result. My own recollections more particularly belong to the first four periods.

With regard to the *first* period, I am not surprised that the Tea plant, as a source of future wealth to the British Himálayan provinces, did not enter into the anticipations of the early administrators of these districts, when I find even the climate, now their chief attraction, was treated with indifference. It is a fact that when Mr. G. W. Traill, then an Assistant under the Resident of Dehli, was first offered the appointment of Commissioner of Kumaon in succession

[1] The substance of this paper was read at the Meeting of the British Association at Plymouth, August, 1877.

to its first British ruler after its conquest in 1815, the Honourable Edward Gardner (afterwards our Resident in Nipál),—he hesitated as to its acceptance on the score of health, and bargained that he might have the option of returning to the plains of Hindostan in case the hills should prove unsuitable to his constitution. If I may not lay too strong a stress on this personal circumstance, I am undoubtedly entitled to notice the fact that, in his statistical sketch of Kumaon, published in vol. xvi. of the "Asiatic Researches,"[1] after nearly ten years' experience of the Province, Mr. Traill, while alluding, generally, to the diversity of temperature and climate found at various degrees of elevation on the mountains, drew up for public information his tabular statement of the thermometrical range (as indicating a "moderate heat") from observations made in the Valley of Hawalbagh at 3,887 feet above the sea. Almorah, at 5,400 feet, remained for many years the highest of the English Hill Stations,[2] and was quoted as the only Sanatorium by Bishop Heber in 1824; while Dehra in the Dún of that name in Garhwál, and Sabáthu in the north-western mountains [both of them situated in almost sub-tropical climates, owing to their low elevation], were the head-quarters of the Civil and Political Officers; these gentlemen had not as yet discerned the future sanatory and social importance of their own creations, viz. Major Young's "*potatoe garden*" at Mussooree, and Capt. Kennedy's "*hot-weather bungalow*" at Simla. Nor, while regretting the delay which has occurred in the introduction of the Tea plant into Kumaon, can I be accused of any unfair or captious display of what might perhaps be called "wisdom after the event" if I point to the following facts, viz. that Naini Tal, now the beautiful summer seat of the Government of the North-west Provinces, was only discovered and established as an European Station in 1843-44;

[1] *Vide* page 15, Official Reports on the Province of Kumaon (Agra, 1851).

[2] The remote frontier post of Kotgurh, overhanging the Sutlej valley in the western hills, though well known as the residence of the two Gerrards, who were among the first to explore and describe the Himálayan regions, is certainly higher in elevation than Almorah and its outposts, but it could not properly be called an English Hill Station.

that Ránikhet, now a large European Military Cantonment, reached by a *carriage road* from the plains, was only known, until very recently, as forming part of the Choumoka Devi range, visited by Bishop Heber in December, 1824, and especially admired by him on account of its magnificent prospects of the Snowy Peaks; that the much-dreaded malarious Bhábar and Terai, at the foot of the Kumaon mountains, formed a real and actual barrier to all intercourse, except by letter post, from April to November, while they are now constantly traversed, in comparative safety, by European travellers, and afford a principal source of revenue to the Kumaon exchequer, under the able management of Sir Henry Ramsay, the present Commissioner; that the resort of English men, women and children to the mountains, formerly feared as somewhat of an invasion and visitation, has become a constantly increasing source of wealth and civilization to the "poor Paháŕris"; and, lastly, that, at the present date, the price of borax from Hundes, in the Almorah Bazaar, has almost ceased to be mentioned as a trade speculation, while the price of Almorah Tea has become an important topic of conversation among the merchants of Kábul!

As these notes are specially devoted to the subject of Tea in Kumaon and Garhwál, I need not concern myself with the general *speculations* as to the growth of the Tea plant throughout the Himálayan districts, or elsewhere, which the valuable paper on Tea culture read before the Society of Arts, by Mr. A. Burrell, on February 2nd, 1877, has fairly exhausted. But I may be permitted to remark that, looking to botanical facts, which show no true Thea or Camellia growing wild in the mountains west of Sikkim, it is highly probable that the specimens of Thea sent from Nipál in 1816 to Dr. Wallich, then the Superintendent of the Botanical Garden at Calcutta, by the Hon. Edward Gardner, belonged to Chinese plants, flourishing in the residency or other gardens at Khatmandu—an introduction nowise extraordinary, considering the political relations existing between China and Nipál. I may also observe that the traveller

Moorcroft, whose deputation to Cashmir and Tibet took place in 1819, and whose special business was to look after horses and wool, when mentioning the "Tea of Bissahir" and comparing it with the "coarser Teas of China," fell into the mistake of supposing that the Tea plant grew naturally on the banks of the Sutlej.

Bishop Heber, who visited Almorah in December, 1824, and, as previously glanced at, on his return tour to the plains, passed the site of the present cantonment of *Ranikhet* by the route of the Riúní, Kúmhpúr and Chaumúka Dévi range,[1] wrote the following words in his journal: "The Tea plant grows wild all through Kumaon, but cannot be made use of, from an emetic quality which it possesses. This perhaps might be remedied by cultivation, but the experiment has never been tried. For the cultivation of Tea I should apprehend both the soil, hilly surface and climate of Kumaon, in all which it resembles the Tea provinces of China, extremely favourable."

This latter remark shows the observant eye, and prophetical wisdom of the good Bishop, and fully entitles him to an honourable place, perhaps the first, on the list of Tea pioneers of Kumaon, but the former statement was founded on a "vulgar error." It is now well known that the plant alluded to is a species of *Osyris*, belonging to the natural order Santalaceæ, and it is as well to record, in this place, that, in the *Transactions* of the Committee of Commerce and Agriculture of the Royal Asiatic Society of London for 1838, Dr. Royle states that "some specimens of the Tea Bishop Heber referred to had been obtained by the Hon. Mr. Shore, from Mr. Traill, then Commissioner in Kumaon, and were found to be the dried leaves of *Osyris Nepalensis*, and produced a very disagreeably tasted nauseous infusion when used as Tea."[2] The indigenous Tea, therefore, of Kumaon must,

[1] As bearing on my present subject, it is somewhat singular that the principal site, originally selected for this military station, was a Tea-garden belonging to the Troup family, the members of which have been, from the first, conspicuous private Tea-growers in Kumaon.

[2] The late Captain Edward Madden, Bengal Artillery, subsequently better known, under the name of Major Madden, as the author of numerous highly interesting botanical and other notes of his tours in the Himálayan districts, and

I fear, take its place, in spite of episcopal authority, among the rosemary and nettle and other *teas* of our rural English housewives. Before closing this subject, I may add that the nearest ally to Thea in Kumaon is a species of *Eurya*,[1] belonging to the same natural family, the "Ternströmiaceæ," but undoubtedly not the Tea-plant.

Amidst all these *guesses and conjectures*, the first real land which we descry in the history of Kumaon Tea is the appointment, on 24th January, 1834, of Lord William Bentinck's "Committee for the purpose of submitting a plan for the accomplishment of the introduction of Tea culture in India, and for the superintendence of its execution." This Committee circulated important queries, and, among the botanists and scientific men aroused by the inquiry, there happily appeared Dr. Hugh Falconer, Civil Surgeon of Saháranpúr, in the North-West Provinces, then in charge of the Government Botanical Gardens at that station, and, eventually, the successor of Dr. Royle in that appointment. His ardent mind was at once aroused to the great importance of the subject as affecting the Himálayan districts which overhung the scene of his official labours.

more particularly in Kumaon, published in the Journal of the Bengal Asiatic Society, in the years 1847-48-49, writes thus in his "Brief Observations on some of the Pines and Coniferous Trees of the Himalaya," printed in vol. iv. of the Journal of the Agricultural and Horticultural Society of India at Calcutta (1845): "Dr. Royle mentions that in Kumaon Tea is made from the leaves of the shrub *Osyris Nepalensis*, and this is probably the Green Tea of Bisehur which Moorcroft (Travels, I. 35, 2) describes as being imported into Ladakh under the name of *Maun* or *Bisehur Tea*, the produce of an evergreen shrub, 4½ feet high, growing on a dry soil in Kooloo, and Bisehur on the banks of the Sutlej, and especially about Jhagul between Rampoor and Seran. The leaves are gathered from July to November, and after infusion in hot water are rubbed and dried in the sun. They sell at the rate of three seers per rupee and are not much in request. The first infusion is reddish and is reckoned heady; the second, which is used, is yellowish green. The *Osyris Nepalensis* grows to be a large shrub ten or twelve feet high in the Kotar Khud above Subathoo and between Kussowlee and Kalka, where it is called Krecoontee, Keoontee, and Kuneentee, and also Loonkt. The fruit is known by the name of Peopla or Peopra, also applied to that of *Murraya exotica*. The natives here use the leaves medicinally, but not, I believe, as Tea. The black Tea of Bisehur, Moorcroft describes as the produce of a deciduous shrub found near Usrung and Leehhee in Kunaur; of which the leaves are pulled in July and August. Usrung is very elevated, for a species of Rhubarb flourishes in the neighbourhood."

[1] In Major Madden's Kumaon Botany *Eurya acuminata* is mentioned more than once. In a recent work, "The Karens of the Golden Chersonese," by Lieut.-Col. A. R. McMahon, the Burmese species of *Eurya* is frequently mentioned as "wild tea."

The mantle of Royle had indeed fallen on worthy shoulders. If to that eminent naturalist at Saháranpúr and to Wallich at Calcutta, who were ever presenting reports and urging arguments in the proper quarter between 1827 and 1834, we owe that formation of the Tea Committee in the latter year I have just named as the era from which to count our Indian Tea chronology, it is to Falconer that the Kumaon and Garhwál Tea growers may undoubtedly look back as the founder of *their* history. I well remember, on arriving at Saháranpúr in January, 1835, my own delight at my first introduction to this eager and enthusiastic votary of science. At that time, of course, the treasures of the Sewálik fossil ground were for the first time displayed to my admiring eyes, and *Cautley, Durand* and *Baker*, officers belonging to the Jumna Canals, were joined with *Falconer* in the enlightened circle[1] belonging to that small, but interesting station, and its neighbour Dádúpúr; geology, however, was far from being the sole topic of animated discussion, and Falconer was full of his recent visit to the mountain country between the heads of the Jumna and Ganges, and of his hopes of permanently introducing the true Tea plant not only there and in the Dehra Dún, but, also, in the district between the Ganges and Gogra, forming the British Province of Kumaon. My own earliest lessons in Himálayan Botany and Geology were there taught me in Falconer's happiest manner, and the sight again of his MS. Journal, then shown to me, with which I have been recently favoured, brings my thoughts vividly back to those instructive days, and sadly reminds me that, in 1834, as in following times, and alas! to the very end, frequent attacks of illness cut short, or diminished the extent and usefulness of, his most important tours of scientific inquiry. Much of the ground traversed and described in that Journal of 1834 was gone over by me in 1835; and,

[1] The future world-wide distinction of this circle was not confined to Canal Officers and men of natural science; for, the late Commander-in-Chief in India, Lord Napier of Magdala, then a young Lieutenant, was Civil Executive Engineer at Saháranpúr. Dr. John Muir, the well-known Oriental scholar, soon after the period of which I am speaking, joined this circle as one of the Revenue functionaries of the district.

knowing the anxiety of my friend in the subject, I well recollect my disappointment in finding that, at one garden—Ráma Surai,[1] in the heart of the Tírhí Rajah's territory—the Tea seeds sown by the Saháranpúr gardener had not yet successfully germinated.

To return to the Tea Committee. The Report[2] received by that body in 1834, from Dr. Falconer, is acknowledged as having led them to adopt the Sub-Himálayan regions[3] as entirely suitable for the projected culture; and so rapidly was this followed up by action, that their deputed secretary, Mr. Gordon, was able to send to them from China a large supply of seeds of the true Bohea tea, which, early in 1835, besides being despatched to Madras, Mysore, the Nilgherries, and Assam, were distributed, also, in foreign Garhwál (Tírhí), the Dehra Dún, Sirmúr, and Kumaon.

It was extremely fortunate for the cause of which I am treating that the Commissioner of Kumaon, in 1834, was Mr. George William Traill. This gentleman, as shown by his published statistical reports on Kumaon and the Bhote Mehals, and by his great reputation as a Local Administrator, was eminently qualified to appreciate the economical importance of the Tea question; and to give effect to any suggestions of the Tea Committee. It was also fortunate that he possessed on the spot an able coadjutor in Mr. Robert Blinkworth,[4] who held, at Almorah, under Dr. Wallich, as he had previously held in Nipál, the appointment of Plant Collector for the Botanical Garden of Calcutta. On receiving the report of the Tea Committee, Mr. Traill at once understood the conditions under which the Chinese Tea plant would be most likely to flourish in his province; and he selected two most appropriate sites for sowing the Tea Committee's seeds. All subsequent experience has shown that, as a general rule, he was quite right in the grounds of his selections—climatic and

[1] Subsequently one of the most favourable, though small, sites of Tea, as reported by Dr. Jameson, in July, 1847.
[2] 22nd February, 1834.
[3] That is, "the lower hills and valleys of the Himálayan range."
[4] A name not unknown to the nomenclature of the Himálayan flora.

otherwise,—while any *extreme* departure from those grounds has been subsequently found to be unfavourable to the success of the Tea experiment. These sites he selected were Latchmeswar, near Almorah, and Bhartpúr, near Bhimtal, the former occupying three acres of old and easily acquired Crown garden[1] land on the north-west slope of the hill below the capital town, at 5,000 feet above the sea, the latter occupying four acres at 4,500 feet above the sea, in the near neighbourhood of the Bhimtal Lake, which is situated on the first step of the mountains above the Bhamauri Pass. To these two sites the Kumaon official experiment was confined during the six quiet years following the eventful period of 1834-35. The close of 1835 witnessed the departure to Europe of Mr. G. W. Traill,[2] the Commissioner to whom the province of Kumaon owes so much. "His name will live for ever among the posterities," the descendants of those grateful Paháŕries, in whose memory their earliest British ruler has been associated with the blessings of peace, kind dealing and good government (blessings unknown under the hard rule of the Goorkhas), if not with that increase of wealth and civilization, moral and material, which, with the advance of the times, has marked the administration of his successors.[3]

It is proper to confess that, at Latchmeswar and Bhartpúr, the growth of the Tea plants was left very much to Providence, and—Mr. Blinkworth; and that no very sanguine anticipations or anxious inspections disturbed the tranquillity of the Kumaon authorities with regard to tea. It was seen, as a matter of ocular evidence, that the plants flourished in those two nurseries; and, perhaps, the first favourable cir-

[1] Ráj-bárhi.

[2] Mr. Traill was a member of the well-known Orkney family, and possessed landed property in those islands, but he preferred to lead a quiet life among old Indian friends in London, and died suddenly at the Oriental Club in November, 1847.

[3] 1836 to 1838, Colonel G. E. Gowan, Bengal Artillery; 1839 to 1848, Mr. G. T. Lushington, B.C.S.; 1848 to 1855, Mr. J. H. Batten, B.C.S., formerly Assistant Commissioner; 1856 to 1877, the present Major-General the Honourable Sir Henry Ramsay, C.B., K.C.S.I., formerly Assistant Commissioner.

cumstance connected with them and their produce was, that many travellers through the Province had opportunities of observing the tall, flower-covered, and seed-laden tea trees growing in Mr. George Lushington's garden, at his beautiful country residence of Ritea Sen,[1] at Soniana, in Lohba, 50 miles to the north-west of Almorah, on the borders of Kumaon and Garhwál. Similarly, visitors to the Saháranpúr Botanical Garden were shown live tea tree plants, the offspring of seeds from the small patch of nursery ground at Koth, in foreign Garhwál.

At Paori, too, the official residence—it can hardly be called the "civil station"—of the Senior Assistant Commissioner in charge of the British portion of Garhwál, situated on the north side of the range overhanging the old capital Srinaggur—very fine tea plants were growing in considerable numbers. At length, in the spring of 1841, Dr. Falconer himself paid a visit to Kumaon, and the regular formation of the Kapína nursery at Almorah, which Mr. Blinkworth had selected, in the immediate vicinity of Latchmeswar, and, like that plantation, having its nucleus in an old Crown-plot of garden, was the first result of his personal inspection of the country. I well remember his hearty approval of the wisdom which had led Mr. Traill and Mr. Blinkworth to select the original tea sites; but it is right to state that Falconer, quite as much as his successor, Dr. W. Jameson, at first strongly desiderated tea sites in more flat, and more easily and plentifully irrigated and irrigatable land.

The extension of the official experiment to the rich slopes adjacent to Naukurchia Tal, the sister lake of Bhimtal, not far from the Bhartpúr plantation, followed in rapid course; and early in 1842 the Government was able to send to the Calcutta Agricultural and Horticultural Society the following cheering notices, supplied by Falconer, respecting the progress already made in the cultivation of the Tea plant in the Provinces of Kumaon and Garhwál.

"The first place in which the plant may be seen is Paori,

[1] Now a tea plantation belonging to Mr. J. Richards.

near Sreenuggur, at the elevation of about 6,000 feet,[1] where there are some hundred strong and healthy-looking plants and seedlings. The next place is in a garden at Lobah; here, at a height of about 5,000 feet, are about as many plants as at Paori, and all of the same healthy appearance. At Almorah there are two gardens belonging to Government; the first covers three acres, and contains 1,500 full-grown trees yielding seed, and 20,000 growing seedlings. The second stands on eleven and a half acres, and has 700 layers and 500 seedlings. The most eligible site nearest the plains is at Bheemtal, where there are two gardens; Bhartpoor, of three acres, contains 300 trees yielding seed, 700 layers, and 200 seedlings; the other, Russeah, on the Nowkoorcha Lake, of six acres, has 5,846 thriving seedlings, and 20,000 seeds sown. In the vicinity of this last garden, in the semi-circular slope of the mountain to the north and east of the Nowkoorcha Lake, a great extent of irrigatable land, proved to be favourable to the growth of the tea-plant, is to be had at the distance of only one march from the plains, and at an average elevation of about 4,000 feet. In the several gardens, not of too recent formation to have trees yielding seed, there are calculated to be not less than 50,000 seeds nearly ready to be gathered, and that nearly all of these will germinate may be concluded from the produce of what have last year been sown, and are now coming up. On the whole, the experiment, in as far as the possibility of rearing the tea-plant in the provinces of Gurhwal and Kumaon is in question, may be safely pronounced to have completely succeeded."

This quotation brings us naturally to the close of our period of *first official experiment*, and we now enter upon the period of *regular Government exploitation*[2]—and, at this point

[1] This elevation is not correct. The height of Paori itself is not quite 5,250 ft. The tea nurseries at Chopra and Gudolee, in its neighbourhood, were subsequently established at elevations extending from 5,000 to near 6,000 feet above the sea.

[2] Dr. Falconer, on 2nd May, 1836, forwarded to the Secretary of the Tea Committee, at Calcutta, a *very full* Report on the sites of the Five Experimental Tea Nurseries which he had established in Gurhwal (Protected State) and Sirmur

of time, the figure of Hugh Falconer begins to recede from our view. But before ill-health compelled him to leave Sahâranpúr, in December, 1842, he had accomplished the main object which he had always in view, and proved the success of the experiment which had been initiated under his auspices, by the production of actual manufactured Himálayan Tea. He had concluded his Report on the state of affairs in Kumaon, at the close of 1841, by the following recommendation: "I beg, therefore, strongly to recommend this to the favourable consideration of Government, that two complete sets of Chinese Tea manufacturers be supplied for the nurseries at Kumaon and Garhwal, especial care being taken, in the selection, that these workmen be of the best description." In consequence of that application,[1] "The Indian Government determined upon sending him a small manufacturing establishment. The black and green tea manufacturers however, who were engaged for this purpose by the Commissioner of Assam, subsequently declined, together with their Superintendent, to proceed to Kumaon. Dr. Wallich was fortunately enabled to procure other men in Calcutta out of a party of Chinese artizans returned from Assam. A set of manufacturing implements were also procured from Assam. These were forwarded to Kumaon in charge of Mr. Milner, the gardener, who was on his way to the Botanic Garden at Saháranpúr. The Chinamen (nine in number) arrived at their destination[2] in April, 1842."

These men made some tea from the Kumaon plants in the autumn of that year, and Dr. Falconer, who had been detained in the South of Europe by ill-health, brought a specimen of the manufacture to England in June, 1843. As shown in Dr. Royle's report just quoted, it was submitted

(Protected State), and on the condition of the Tea seeds which he had received from Calcutta. I am especially indebted to Mr. Burrell for the use of Dr. Falconer's original Diary and other MSS., and of this first Tea Report, never published, which Mr. Burrell found in the Records of the India Office, and has permission to print.

[1] Vide Report on the Progress of the China Tea Plant in the Himálayas, from 1835 to 1847, by J. Forbes Royle, M.D., F.R.S., London, April, 1849. Journal of the Royal Asiatic Society, Vol. XII. Part I.

[2] Hawálbagh, near Almorah.

for examination to the eminent tea-brokers, Messrs. Ewart, MacCaughy, and Delafosse, and their report of 8th September, 1843, is thus worded:—"The tea brought by Dr. Falconer as a specimen of the growth of the China plant in the Himálayan Mountains resembles most nearly the description occasionally imported from China under the name of Oolong. This resemblance is observable in the appearance of the leaf before and after infusion. The colour of the liquor is also similar, being paler, and more of the straw colour than the general description of black tea. It is not so high flavoured as the fine Oolong tea with which we have compared it, and has been too highly burnt in the preparation; but it is of a delicate, fine flavour, and would command a ready sale here." I myself well remember the arrival of the Chinamen; and in my printed account of Almorah, in June, 1843, where I described the beauty of the scenery at Hawalbagh, and recorded the fact that Major Corbett's large estate at that place had been purchased by Government, with my hopes that, under the superintendence of Dr. Jameson, the *horticultural* garden would yield large supplies of fruit, such as apples, pears, and plums, of better quality than then existed, I added, "Thousands of Tea plants are thriving very well in the Almorah and Hawulbagh nurseries, and ten Chinese Tea-bakers amuse the puharree population by their strange figures, and still stranger propensities."[1]

It is no disparagement of Falconer's merit that it was subsequently discovered that these first imported artizans were not all of the right sort from the best Tea districts of China, or that Dr. Jameson, who had relieved Falconer during the serious illness of the latter, had, as it would appear, also sent specimens of manufactured Tea to Calcutta and London, and received a favourable report thereon in September, 1843, from Messrs. Thomson, of Mincing Lane.

We now come to the great *central name* which will always most justly be associated with the immense success which has attended the progress of Tea culture in the mountain

[1] Among them their love of pork.

districts of India. William Jameson had not to make a name for himself. He came to India with all the *prestige* derived from the reputation in science of his celebrated uncle, and right nobly did he sustain and extend from Edinburgh and Europe to the Himálaya and Asia, the honours of his family.

Having assumed full management everywhere as Superintendent, Dr. Jameson paid his first visit to Kumaon, in April, 1843; and made his first official Report[1] on the Tea Nurseries of that Province, on the 28th February, 1844. From that date until the final abandonment of the Government exploitation, and the successful establishment of private enterprizes, the progress of the whole cultivation of the Tea plant, and of the production and disposal of the manufactured Tea, formed the subject of the most complete and exhaustive reports, furnished regularly by the Superintendent, and published at first in the "Transactions of the Calcutta Agricultural and Horticultural Society," and, after the introduction of the system of Annual Administration Reports by the several Governments of British India, in the official records of the N.W. Provinces. It is not necessary for me to transfer the statistical details thus furnished to the pages of these Notes and Recollections. I trust that they will be collected and embodied in one general history, either by Dr. Jameson himself, or by some other competent authority. But the following observations, founded on personal experience connected with the *earlier* reports, will not, I humbly think, be out of place.

With the exception of the garden at Hawalbágh, which, with its fine house and offices, were purchased by Government at a most convenient and critical period in the history of the experiment of which we are treating, and which became the head-quarters of Dr. Jameson in Kumaon, and the site of the principal factory—the new ground taken up for the first great extension of the Tea nurseries was not *all*

[1] Communicated by Government N.W. Provinces to the Agricultural and Horticultural Society, Calcutta, and published in their Journal, vol. ii. no. xii.

happily chosen. At that time, a *copious* supply of water for irrigation of the Tea plants was considered essential to their welfare, and Dr. Jameson, in his additions to the original plantations in the Bhimtál district, only carried out the selections and intentions of his predecessor. Russeah, Kooa Sar, and Anoo Sar, especially these last, as their names imply, were situated in essentially *valley* land. The natives of Kumaon divide all land into *ooperaon*, or high, and *tulaon*, or low, which last division also includes *seera*, or actually wet or irrigated soil; and the original recommendations of the Tea Committee certainly did *not* point to the latter. But these nurseries also had another defect. They for the most part occupied land which the villagers of the Chukháta district preferred to keep in their own occupation, and official pressure was undoubtedly used, before the landowners agreed to take what was considered a compensating rate of rent.

I, myself, at that time, filled a subordinate position, and, in handing over wheat and rice lands for the planting of Tea, only acted under the orders of superior authority. But nevertheless, in my civil executive capacity, my hands, as duly recorded by Dr. Jameson, dealt the fatal blow, and I do not now wish to deny my responsibility; but the whole thing was a mistake, and some time before I resigned the Commissionership to its present philanthropic incumbent, having been instant, in season and out of season, in personally representing to the head of the local Government the claims and wishes of the Zemindars, I had the great satisfaction of restoring them their lands, and receiving their thanks. On this matter Mr. Robert Fortune, the celebrated gardener-traveller, to whom English florists owe so much, in his first report on the condition and prospects of Tea cultivation in the North-West Provinces, dated September 6th, 1851, after objecting to the "low flat land" as unsuitable for Tea, remarked, "Besides, such lands are valuable for other purposes. They are excellent rice lands, and, as such, of considerable value to the natives." And in his second report, in 1856, he made the following observation:—"In my former report to Government, it was necessary to express an opinion on

some other plantations in this district, where the land which had been chosen was not suitable for Tea. Since that time these plantations have very properly been abandoned, and the land returned to the natives for the cultivation of rice and other crops, for which it is well adapted." I have no wish to revive the controversies raised by what may be called the "Fortune Episode" in the general history of Himálayan Tea; but in recounting my own experiences on the subject of Kumaon Tea in particular, it would have been almost dishonest to have maintained a complete silence on the *vexata quæstio* of moist and dry sites, or to have omitted some mention of the only remarkable official mistake committed in the course of a Government exploitation which at last culminated in such brilliantly successful results.

Putting aside the point of controversy, which, after all, chiefly referred to a temporary state of the Kaolagir[1] plantation in Dehra Dún, the earlier deputation of Mr. Fortune to the Tea plantations—a most important and beneficial event in the history of Indian Tea, being made by one thoroughly acquainted with China—brought to proof quite as much as did his second, the very great *impetus* which had been given to the spread of the plant by the energetical efforts of Jameson.

After the lapse of twenty-six years I still remember with the liveliest pleasure the visit of Fortune to Kumaon in 1851, and the enjoyment and profit I received from his interesting and instructive conversations at Naini Tal and its vicinity; while, of course, it was additionally satisfactory, as I then filled the principal official post in the province, to find that he sympathized with my views as to the future sites of the Tea plants.[2]

[1] Formed by Dr. Jameson in 1844, and sold to the Rajah of Sirmúr (Náhn) in 1867.

[2] Among other remarks in his first report occurs the following:—"There is no such scarcity of Tea land (*i.e.* 'the hilly land, such as the Tea plant delights in') in these mountains, more particularly in Eastern Gurhwal and Kumaon. It abounds in the districts of Paoree, Kunour, Lohba, Almorah, Kuttoor, and Bheemtal; and I was informed by Mr. Batten that there are large tracts about Gungolee and various other places equally suitable. Much of this land is out of cultivation, while the cultivated portions yield on an average only two or three annas per acre of revenue."

I had been a little disappointed by the result of a visit paid by Dr. Jameson in the autumn of 1846 to my pet tract, Kutyoor, concerning which he reported in July, 1847:—"I accompanied Mr. Commissioner Lushington to Byznath, being informed by him and Mr. Batten that in its neighbourhood a large tract of country well adapted to Tea cultivation was lying waste. Such, however, no doubt was the case prior to the last settlement; now all the irrigable land is covered with rich cultivation. I must, therefore, extend the plantations in the Chukhata district." It was with corresponding satisfaction that I found Mr. Fortune, in 1851, fully alive to the great importance of Kutyoor as a Tea district, and I cannot refrain from quoting at length his recorded opinions on the same subject:—"Kutoor is the name of a large district thirty or forty miles northward from Almorah, in the centre of which the old town or village of Byznath stands. It is a fine undulating country, consisting of wide valleys, gentle slopes and little hills, while the whole is intersected by numerous streams and surrounded by high mountains. The soil of this extensive district is most fertile, and is capable of producing large crops of rice on the low irrigable lands, and the dry grains and tea on the sides of the hills. From some cause, however, either the thinness of population or *the want of a remunerative crop*, large tracts of this fertile district have been allowed to go out of cultivation. Everywhere I observed ruinous and jungle-covered terraces, which told of the more extended cultivation of former years. Among some hills near the upper portion of this district, two small Tea plantations have been formed, under the patronage and superintendence of Captain Ramsay, Senior Assistant Commissioner. . . . . I never saw, even in the most favoured districts of China, any plantations looking better than these."

In my own Settlement Report, written in 1846, and printed in the *Kumaon Official Reports*, published by the Government of the N. W. Provinces, Agra, 1851, I had stated as follows: "At one time, from the citadel of Runchoola above their capital Kuttoor, the ancient rulers of the hills must have

looked down and around on an almost unbroken picture of agricultural wealth, for, not only in the valleys, but up three-fourths of the mountain sides, now covered with enormous forests of pine, ... the well-built walls of fields remain in multitudinous array, terrace upon terrace, a monument of former industry and populousness, and only requiring the axe to prepare an immediate way for the plough. The valley of Byznath, being situated on the frontier of Kumaon with Gurhwal, and in the neighbourhood of Budhan Fort, was often, in all probability, the scene of border conflicts and military exactions, and, the desertion of villages having once commenced, the deterioration of climate, originating in the spread of rank vegetation, and the neglect of drainage, etc., may be supposed to have gone on from worse to worse, till finally the heat and moisture were left to perform all their natural ill-offices, unchecked by the industry of man. Viewing, however, the present slight improvement in a hopeful light, and remembering the less favourable situations in which nurseries are thriving, *I am of opinion that the district of Kuttoor* (Byznath) *would be found the one most deserving of selection for the future spread of the Kumaon Tea cultivation.* Irrigatable unoccupied lands, at between 3,000 and 5,000 feet above the sea, abound on the lower slopes of the hills, while much of the good land in actual possession is occupied by migratory tenants at will, unattached to the soil, in whose place the Pudhans of villages could have no reasonable objection to see profit-paying, wealth-planting *Gardeners.*"

In another place, after describing the desolation caused by tigers in the neighbouring Pergunnah of Gungolee, and after showing the small amount and precarious character of its revenue, and the facilities for obtaining waste lands, I added, "I have named this Pergunnah as one of those most favourable for the Tea-growing experiment. I do not fear the expulsion of well-armed, and, what is better, well-paid Mallees from their fenced nurseries by the combined efforts of all the *ferœ naturæ* of Gungolee." I may, I trust, be permitted to look back with pride to these, and

other similar vaticinations with regard to Kumaon Tea, when, in 1877, I am able, in recording my recollections of my "antiquæ sedes," to point to the long list of flourishing Tea Plantations in Kutyoor, and now, on the earliest possible occasion, publicly to thank those of the existing Kumaon Planters who have given or sent to me *their* thanks for having been the first to declare the suitability of the sites now occupied by their estates, and to prophesy their future wealth. But my chief triumph, as it is, also, the main cause of the existing prosperity, may be seen in the fact—one most kindly and hospitably brought before my own eyes in 1865, when I took leave of Kumaon during a final visit from my last Indian station, Agra,—that Dr. Jameson himself established[1] a principal nursery and factory at Ayar Toli, near Byznath, of more than 2,000 acres, which became the centre of the best and richest Tea district in Kumaon.

I cannot conclude this paper without adding to the names, which, in these notes, have been mentioned in connexion with the introduction and progress of Tea in Kumaon and Garhwál, the distinguished one of Sir John Strachey, the present Financial Minister of India, lately Lieut.-Governor of the N.W. Provinces, and, for more than ten years of his younger life, a most important member of the Kumaon Civil Commission. To him, I am bound to add, that the Hill Provinces owe an immense debt of gratitude. If Science owes to his well-known and able elder brothers, Colonel Henry Strachey, and General Richard Strachey, the pioneer development and elucidation of all that is most interesting in the geography and geology of the Himálayan regions, belonging to, or adjacent to, Kumaon,—with no less distinction will the words *Progress and Light* be always associated with the name of John Strachey, in the civil, moral, intellectual, sanitary, and material history of Kumaon and Garhwál.[2]

[1] Under orders of Lieut.-Governor N.W. Provinces, dated 31st July 1854.

[2] As bearing on my own particular subject, the "Notes on the Cultivation of Tea in Kumaon and Gurhwal," written by J. Strachey, Esq., Senior Assistant Commissioner, Gurhwal, dated 30th May, 1854, and printed by the Government N.W. Provinces, among other papers of that year, at their Agra Press, may be referred to as a communication of the highest value. While deprecating any

As the very best commentary on what I have been stating, I append the list of private plantations in the Dehra Dún, which accompanied the admirable official memoir on that district in 1874 by Mr. G. R. C. Williams, Bengal Civil Service, and a similar list for Kumaon and Garhwál in 1877, which I have recently received from Almorah. Verily, the few seeds sown in those early diminutive plots in 1835, under the auspices of Traill and Falconer, have produced abundant fruit!

The very names of some of the gardens and of their proprietors are highly suggestive of that part of the history of Tea in the Hill Provinces, which has been omitted from this sketch, as not belonging to my own personal recollections, and as being likely to become the subject of future notice by competent authorities. Although the completion of the Government exploitation, the commencement and progress of private enterprise, the abandonment of the official experiments, and the several stages by which the present commercially successful result has been reached, have been left for description by others, I am not travelling beyond my own appointed record when, before closing this paper, I recur to the period which preceded the full working of his large factories at Hawalbágh, Bhímtál, Áyár Toli, Paori, and Kaolagir, by Dr. Jameson.

This period includes the decade of years from 1845 to 1855, during which the reins of government in the North-West Provinces were held by the hands of those highly distinguished and deeply lamented Lieutenant-Governors, the Honble. James Thomason and the Honble. John Russell Colvin, whose able Secretaries[1] happily still survive, and could testify to the anxious interest taken by their chiefs in Tea culture. That interest led to a great amount of personal inquiry, and of consultation with the local officers, and to

artificial forcing of tea cultivation, Mr. Strachey distinctly anticipated the fact of tea becoming a staple produce under the influence of *European* capital, and he urgently recommended the formation of good lines of road communication throughout the Hill Provinces.

[1] Mr. John Thornton, B.C.S. Retired, and Sir William Muir, K.C.S.I., late Lieut.-Governor N.W.P., and, now, on the Council for India.

much official correspondence, all which had reference and pointed to, the future popular establishment of the new industry, after the exploiting work of the State should have been accomplished. In those days, the increased prosperity of the Hill people as earners of wages was clearly prophesied, together with the creation in a new field of a staple produce, calculated to benefit our own countrymen, who might embark their capital in the tea-growing enterprise. But, undoubtedly, there was also mixed up with the discussions which then took place, a somewhat vague notion that the Paháŕri agriculturists would themselves engage in tea planting, and (to use a phrase which I find in one of my own Settlement reports) that the "jealous occupants of rice and wheat fields would become humble applicants for tea seeds." Under this notion, various plans were proposed, and in some few cases adopted, for the introduction of the plant into villages, such as the free or conditional distribution of seeds, the granting advances (tuccávee) to intending tea planters among the Zemindars, the promise to buy tea-leaves brought in by the peasants to the several factories, the establishment of petty tea farms under native managers, with assistance from Government in the way of small local manufactories for the skilful preparation of tea, and similar measures of encouragement; while, equally to Natives as to Europeans, the promise was held out that, at any re-settlement of revenue liabilities, no higher rate of assessment should be levied on tea lands than the average rate usual for lands yielding the best ordinary products; and last, not least, that good roads to markets should be opened. The lists of existing planters show that the anticipations of that period have not been fulfilled with regard to the Native agriculturists, who have for the most part been content to supply in their own persons the well-paid and carefully supervised labour which has been, on experience, found to be necessary for the successful cultivation of tea by their European employers. Again, the records of the period to which I am referring show that, during the re-action occurring in favour of taking up for tea every available waste site, which

succeeded the time of selecting for that purpose only a few supposed appropriate localities, there were vast over-estimates put forward of the extent of territory suitable for the introduction of the plant; and the zeal, even of the prudent and wise Director of the Tea experiment, Dr. Jameson, led him into language on this point which, doubtless, he would himself now allow to have been far too sanguine. On reverting to the correspondence of the year 1852, I find that, notwithstanding Mr. Fortune's and my own statement on the subject of land available for tea (which have been previously quoted in this paper), I myself (fortunately for my reputation at the present time) informed the Government[1] that if 50 ready terraced waste sites in Garhwál, and 150 similar sites in Kumaon, *at absolute disposal of the State*, could be found fit for survey, and for offer to tea speculators, that quantity would be as much as might fairly be expected. I am now credibly informed that my estimate was too high, and that unless a change of system should occur, and unless uncleared mountain slopes, covered with oaks and pines, should be thought suitable for the planting of future nurseries, instead of, as now, being only used for the supply of fuel and timber, the Kumaon and Garhwál tea growers must give up the idea of occupying old abandoned sites, and must purchase from the Hill Zemindars whatever land they may require, *within the area of existing occupied villages*.

Whether this state of affairs is matter for congratulation or for regret, is a topic on which I cannot now enter; though, however anxious I may be for the spread of tea cultivation, I, as a philanthropist, am inclined to rejoice in the absence of "waste villages." But this sketch would have been manifestly incomplete if I had introduced, at its close, a statistical proof of the existing prosperity of the Tea industry, without some allusion to the early period, within my own memory, of preparation and hope which preceded it.

[1] Letter of Commissioner of Kumaon to Secretary of Government N.W.P., 10 Feb. 1852.

LIST OF PLANTATIONS IN KUMAON AND GARHWAL, 1877.

Furnished by H. G. Batten, Esq., Extra Assistant Commissioner.

Alphabetical Names of Concerns.	Name of Gardens.	Proprietors.
1. Berenág ... ... (In Pergunnah Gungolee, Puttee Buraon)	Berenág Purana Thul, Peerpulta	W. J. Galway S. Carrington and J. Isaac
2. Cheerapanee ... ... (In Pergunnah Kalee Kumaon, Puttee Tulla Charal)	Cheerapanee	Major C. A. de Kantzow
3. Chowkooree ... ... (In Pergunnah Gungolee, Puttee Buraon)	Chowkooree ... ... Chinnatee	J. G. Bellairs
4. Doonagiree ... ... (In Pergunnah Palee, Puttee Mulla Dwara)	Doonagiree	Craw and Co.
5. Dr. Oldham's Tea Gardens (No. 1, at Hawulbagh old Cantonment, near Almorah No. 2, in Pergunnah Chukhâta, near the Bheemtal Lake, and all the remainder in the great Tea District of Kutyoor to the North of Almorah)	1. Hawulbagh Lines 2. Bheemtal 3. Nowghur 4. Lucknee 5. Burgwar 6. Mulla Dhoba 7. Tulla Dhoba 8. Downee 9. Nurguaree 10. Pitlakote 11. Whendra	T. Oldham, Esq., LL.D., F.R.S., F.G.S., etc.
6. Dumlote ... . (In Pergunnah Kutyoor)	Dumlote	R. M. Dalzell
7. Fernhill ... ... (In Pergunnah Kalee Kumaon, Puttee Bisong)	Fernhill	Col. J. J. Dansey
8. Government Tea Gardens	1. Ayar Tolce . . ... 2. Hawulbagh	1. Messrs. C. & N. Troup 2. Motee Ram Sah
9. Gwaldum ... ... (In Pergunnah Budhân, Zillah Gurhwâl)	1. Gwaldum... ... ... 2. Cheringa	T. A. Warrand
10. Jhultola and Sunoodhiâr (No. 1 in Puttee Buraon No. 2 in Puttee Kumsyar, Pergunnah Gungolee)	1. Jhultola ... ... 2. Sunoodhiar	Moonshee Etmâm Ali
11. Kousanie Tea Co. Limited (in Pergunnah Kutyoor)	Kousanie	Kousanie Tea Co.
12. Kumaon and Kutyoor Tea Co. (In Pergunnah Kutyoor)	1. Wagoola ... ... 2. Megree, etc.	C. J. R. Troup Sir R. J. Meade, K.C.S.I. Major D. N. Murray Col. W. H. Hawes Col. H. J. Hawes Col. J. P. Waterman Capt. G W. Cockburn Major C. H. Hinchcliff N. F. J. Troup Col. A. S. Smith Capt. G. S. Tait

List of Plantations in Kumaon and Garhwál (*continued*).

Alphabetical Names of Concerns.	Name of Gardens.	Proprietors.
13. Lockington) ... ... (In Pergunnah Kutyoor)	1. Chuttyeo ... ... 2. Brouga ... ... 3. Ayar Tolee .. ... 4. Dishholee...	N. F. J. Troup
14. Lodh ... ... (In Pergunnah Baramundul, Puttee Borake Rao)	Lodh	C. J. Ackland (lessee)
15. Lohooghat ... ... (In Pergunnah Kalee Kumaon, Puttee Bisong)	Lohooghat	Mrs. Richards
16. Moosetee .. .. (In Pergunnah Chandpoor, Puttee Chuprakot, Zillah Gurhwal)	Moosetee	J. Henry
17. Newton Dale ... ... (In Pergunnah Kalee Kumaon, Puttee Chárál)	Newton Dale	J. Newton
18. Nowghur... ... ... (In Kutyoor)	Nowghur	Dr. Oldham
19. Paoree ... . (In Pergunnah Barah Syoon, Puttee Nandul Syoon, Zillah Gurhwal)	Paoree	J. Henry
20. Ramgurh and Jhulua (1. In Perguunah Ramgurh, Kumaon. 2. In Pergunuah Baramundul, Puttee Oochoor)	1. Ramghur... ... ... 2. Jhulua	F. J. Wheeler Captain R. Wheeler
21. Ryekote ... ... (In Pergunnah Kalee Kumaon, Puttee Chárál)	Ryekote	W. J. Lyall
22. Silkote ... ... (In Puttee Lohba, Zillah Gurhwal)	Silkote	Mrs. Cumberland
23. Sitolee ... ... (In the suburbs of Almorah)	Sitolee	Capt. T. N. Harward and brother
24. Tilwaree ... ... (In Pergunnah Budhán, Zillah Gurhwal)	Tilwaree	H. M. Shepherd
25. Willow Bank .. ... (In Puttee Lohba, Zillah Gurhwal)	Willow Bank	J. Richards

Mem.—Yield of Kumaon Tea, 1876 : 578,000 lbs. (350,000 lbs. sold in India to Central Asian merchants). Estimated yield, 1877 : 690,000 lbs.

APPENDIX XV. TO MR. G. R. C. WILLIAMS' HISTORICAL AND STATISTICAL MEMOIR OF DEHRA DOON, 1874.

LIST OF TEA PLANTATIONS IN 1871.[1]

No.	NAME OF PLANTATION.	NAME OF OWNER, etc.	Estimated area under cultivation in acres.		Estimated annual out-turn in lbs.	Estimated value of annual out-turn.	REMARKS.
			Acres.	Roods.	Lbs.	Rupees.	
1	Arcadia	Dehra Doon Tea Co. Limited	220	0	50,000	70,000	This calculation is for 1871. Manager says that allowing the possible out-turn to be 150,000 lbs., and making deduction for loss, he considers 125,000 lbs. only as the amount which would actually reach the market. He has also made allowance for the fact that the class of tea made by him (green) has fallen 3 annas and 4 annas a lb. since February.
2	Hurbunswálá	Manager, Mr. Minto... ..	330	0	80,000		
3	Ann Field Tea Company...	Manager, Mr. Watson ...	300	0	50,000	37,500	
4	Bunjárawálá	Mrs. Knyvett	100	0	5,264	2,632	This calculation is for 1870. The concern being a private one, and badly managed, like all of the same sort on the Doon, it is hard to obtain exact statistics, but those given are pretty correct.
5	Luckunwálá	Ditto	50	0	1,048	655	Same remarks apply here also. Moreover, this was a jungle in 1869, and not more than 400 lbs. of tea have been sold as yet.
6	Kowlaghir...	The Náhun Rájá ... ... Manager, Mr. Mooney ...	250	0	54,026	27,013	
7	Goodrich	Mrs. Vansittart...	80	0	6,200	3,900	The out-turn in 1869 was 4000 lbs.; in 1870, 5000 lbs. That given is the estimated out-turn for the current year. The value of the 1869 out-turn was 2,200 rupees, which in 1870 increased to 3,300 rupees. Mrs. Vansittart considers that this may possibly rise to 4,000 rupees in 1871.

8	New Goodrich	Ditto	2	1	40	28	A very young plantation, tried experimentally in other soil.
9	West Hopetown	Company Limited	68	0	10,000	6,250	The Company has been kept going by contributions among the shareholders, but its prospects are improving. Col. Macpherson, the resident shareholder, to whom the accounts are rendered, has furnished this return.
10	Nirunjunpoor	Col. Macpherson	80	0	4,800	3,000	This calculation is for 1870. The plantation in that year did not pay its working expenses, in spite of facilities for canal irrigation.
11	Ambaree	Ambaree Tea Co. ... ... Manager, Mr. Barnard ..	170	0	13,000	10,000	This calculation is also for 1870.
12	Rosevilla	Capt. Swetenham	48	0	3,000	2,000	
13	Charleville	Mrs. Dick, let to Mrs. Reilly	76	0	4,000	2,500	The returns for 1869, when the estate was in Mrs. Dick's hands, are as follows :— Acres. 60 Lbs. 3,000 Rupees. 1,800. In 1870 the estate was under the management of a native agent, who is said to have rendered no account. The calculation for the present year is a rough estimate by Mrs. Reilly's son.
14	Hurbhujwálá	Lalá Rám Náth	100	0	9,000	5,344	
15	Gurhee	Lalá Rám Náth	30	0	2,200	1,362	
16	Durtawálá and Ambeewálá	Mohunt Preetum Dagh ..	17	0	800	300	
17	Nuthunpoor	Myan Rubere Sing, son of Rájá Lal Sing	15	1	450	281	
18	Dhoom Sing's Plantation...	Dhoom Sing	59	0	3,000	1,500	
19	Nirunjunpoor	Kunhya Lall	19	0	1,000	600	
		Total ..	2,024	2	297,828	174,865	

[1] From private reports, I am informed that this Return for 1871 does not represent, in some of the Dún Plantations, the actual state of affairs in 1877, which is more satisfactory with regard to area under Tea cultivation.—J.H.B.

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ART. VII.—*Note on Pliny's Geography of the East Coast of Arabia.* By Major-General S. B. MILES, Bombay Staff Corps.

AT the period Pliny wrote his Natural History, the whole coast of Arabia appears to have become tolerably well known to the Greeks and Romans. With the western and southern portions of the peninsula they had perhaps long been acquainted; but their knowledge of the eastern and more remote parts was of much more recent date. Regarding the history of their gradual acquisition of this knowledge, the light afforded us is very faint. Arrian mentions that the first attempt to sail round the Arabian Chersonese was made from the Red Sea in the hope of reaching the Persian and Susian shores, but that the expedition, after having coasted along the greatest part of Arabia, was compelled by want of water to sail back again. Who these navigators were, and by whose command they undertook the journey, he does not say, but it seems probable they came from Egypt.

The next attempts at the exploration of the eastern Arabian coast were due to the genius and ambition of Alexander the Great, but the information acquired by him was unfortunately to a great extent lost at his death, and, for a century and a half afterwards, these shores remained almost wholly unknown to Europeans, until, as we learn from Pliny, an exploration was ordered to be made by King Antiochus Epiphanes.

During the voyage of Nearchus from the Indus he had, in passing through the Straits of Hormuz, sighted from a distance the great promontory of Maketa, but he did not visit it, nor does he seem to have learned the name of a single town on the Arab coast. His report to Alexander, however, doubtless served to stimulate the desire for conquest, and was partly the cause of the determination of that monarch to attempt an invasion of Arabia. It was with this view, and while preparations were being made for the enterprise, that Alexander, after his arrival at Babylon, sent out *three* successive expeditions to explore the coast, and obtain as much information as possible. The first of these expeditions was entrusted to the command of Archias, who had sailed with Nearchus, and had already distinguished himself. He, however, only sailed as far as the islands of El Baḥrein, and then returned. The voyage of Androsthenes, who was next sent out, is described by Strabo from Eratosthenes. This expedition does not appear to have reached much further than the former one, as Tylos is the last place mentioned, and the distance Androsthenes gives from it to Cape Mussendom, viz. one day's sail (about sixty miles), is far too short: a mistake he could not have made had he actually navigated the intermediate space. The third vessel despatched was under Hiero, who sailed as far as a great promontory, beyond which he dared not go, and whence he returned to Alexander. Arrian states distinctly that none of these navigators succeeded in getting beyond Cape Mussendom, but it is possible he may have been mistaken, and that Hiero reached as far as Ras el Ḥad. Presuming such to be the case, his voyage must be looked on as a considerable achievement, and second only in importance to that of Nearchus himself. No record, however, of the journey has been preserved, and the results of it, so far as the advancement of geography is concerned, were practically nil. Alexander alone seems to have been capable of appreciating the value and importance of these attempts; and when the master-mind was removed by death, the stores of geographical knowledge collected by him for the prosecution of his ambitious schemes were in great part lost.

Pliny himself, indeed, does not vouchsafe any further information regarding the expedition sent out by Antiochus, but it must have been a successful one and followed by others, as the relations of several navigators were extant in Pliny's day, from which he compiled his account. After this time the acquisition of knowledge continued to be rapid enough, as we may see from Ptolemy, whose systematic investigation gave him a pretty extensive acquaintance with the geography of the country; but it is much to be regretted that he contented himself with mentioning a few only of the most salient points on the Oman coast, and did not condescend to work up and embody in his own account all the material he undoubtedly had at his disposal. Pliny's list of localities is sufficiently copious, but the state of confusion it is in is almost chaotic. This is due to his own want of method, and partly to ignorance of the configuration of Arabia; for, notwithstanding his indefatigable industry, he copied down too indiscriminately, and, perhaps, too hastily, to admit of the names being arranged in proper order, and it is not surprising that his account should be not only full of repetitions, but also of misplacements of whole passages.

The state of Pliny's Arabia being thus obscure, does not render it very inviting to commentators, and not much, consequently, appears to have been effected towards its elucidation; the recent work, however, of Dr. A. Sprenger, on the ancient geography of Arabia, in which he has taken Ptolemy for his text, and made use of the old Arab geographers, has thrown so much light on the subject that there can be less hesitation now in venturing to follow it up.

In the twenty-sixth chapter, book vi., on the voyage to India, which is full of interest, Pliny makes mention incidentally of certain places on the southern coast of Arabia; and in the twenty-eighth chapter he discourses on the Arabian and Persian Gulfs; but it is in the thirty-second chapter that he more particularly describes the peninsula, and in this, after giving an account of the northern portion, he proceeds thus (I follow Riley's translation): "We will now proceed to describe the coast after leaving Charax, which was first

explored by order of King Epiphanes. We first come to the place where the mouth of the Euphrates formerly existed, the river Salsus and the promontory of Chaldone, from which spot the sea along the coast for an extent of fifty miles bears more the aspect of a series of whirlpools than of ordinary sea; the river Achenus, and then a desert tract for a space of one hundred miles, until we come to the island of Ichara; the Gulf of Capeus, on the shores of which dwell the Gaulopes and the Chateni, and then the Gulf of Gerra. Here we find the city of Gerra, five miles in circumference, with towers built of square blocks of salt." The names in this passage are, with one or two exceptions, unrecognizable at the present day; but the natural features of the land are sufficiently marked to enable us to identify them with tolerable certainty. It shows, however, that Pliny's knowledge of the coast so far was greatly inferior to Ptolemy's. The river Salsus is most probably the same as the Coromanis of Ptolemy, and identical with Khor Subeyeh, between Bubiyan and the mainland. The prefix Cor in this and similar instances is equivalent to Khor, the Arabic word for a creek or inlet. Pliny has just before mentioned the Omani as a tribe extending from Petra to Charax, and I take Coromanis therefore to be Khor Omani, the creek of the Omani. Chaldone is the southern point of the Gulf of Koweyt, viz., Ras el Arḍ or Ras el Loor. The description of the sea off this part of the coast is somewhat exaggerated, and would be more applicable to Ras Tanooreh, about 200 miles lower down, which obtains its name from the confused and dangerous sea off it caused by the meeting of the tides there. Fifty miles below Chaldone is Achenus Fluvius, which, in consideration of the distance, I believe to be Khor el Zowar, a salt creek extending some distance, and used by coasting and fishing craft as a place of shelter. Ichara Insulæ, 100 miles further, would appear to be the same as the Ichara of Ptolemy, and the island to which Alexander gave the name of Ikaros. The similarity of name would point to the island of Karak, opposite Bushire, but it is far more probably identical with Jezeeret Boo 'Ali, the only large island on the Bar el 'Adan. The Gulf of

Kapeus is Kateef Bay; Pliny's word being obviously a corruption of its present name, which we know from Arab writers to be an ancient one. The Gaulopes, who are said to dwell on these shores, I imagine to be some tribe that has since become extinct or absorbed, but there is a nomadic tribe lower down, the Ghafâleh (غفالة), to which the name may possibly refer. Sprenger's derivation is very ingenious and probable. The Chatteni are the same as the Attene and people of Attana mentioned immediately after by Pliny, and have been identified with the people of El Khaṭṭ, or the coast-line opposite to El Baḥrein, and the subject will be found fully elucidated in Sprenger's work. There may possibly have been a town El Khaṭṭ there once, but it is no longer known, and the only village of that name I have heard of is on the pirate coast. The next position requiring to be determined, viz. the town of Gerra, is the most important on the whole coast, and its exact site has not even yet, I believe, been satisfactorily ascertained. The Gulf of Gerra is well known to be the same as the Gulf of El Baḥrein, and Gerra itself, the grandest emporium of ancient times in the Persian Gulf, was situated some miles from the sea, probably at or near the present town of El Aḥsa, its seaport being at El Ojeyr. Strabo's account of Gerra is very similar to that of Pliny, and it is also mentioned by Arab geographers. The commerce and site of this emporium have formed the text of many writers.

Pliny continues: "Fifty miles from the coast, lying in the interior, is the region of Attene, and opposite to Gerra is the island of Tylos, as many miles distant from the shore; it is famous for the vast number of its pearls, and has a town of the same name; in its vicinity there is a smaller island distant from a promontory on the larger one twelve miles and a half. They say that beyond this, large islands may be seen upon which no one has ever landed: the circumference of the smaller island is 112½ miles, and it is more than that distance from the Persian coast, being accessible by only one narrow channel." The region of Attene, as already observed, is El Khaṭṭ, and the two islands, Tylos

and the smaller one, which Strabo calls Aradus, have long since been satisfactorily identified with the Baḥrein Islands; viz. Menâmeh, formerly called Awal, and Maharrak. The name Tylos (Ṣoor) has quite disappeared from Menâmeh, but a portion of Maharrak still bears the name Arad. Strabo tells us that these islands had temples resembling those of the Phœnicians, and that, according to the inhabitants, the islands and cities, bearing the same name as those of the Phœnicians, are their own colonies. The Phœnicians, there is no question, must have had several colonies or trading stations in the Persian and Oman Gulfs for the furtherance of their commercial operations, the real extent of which has perhaps not yet been fully appreciated. Besides Gerra and El Baḥrein, they appear to have had one on the Persian coast at Sidodone, the village touched at by Nearchus, and possibly the same as Tawânah near Charak. Another station was near Mussendom, as Arrian states Nearchus was informed there was a spice mart at Maketa, and there can be little hesitation in ascribing its establishment to the Phœnicians. Where it was situated we have no clue to guide us, but the most probable sites are Khasab and Ras el Kheimah. The present Ṣoor, 15 miles west of Ras el Ḥad, was another colony, and possibly also the town of Ḳaryat, 30 miles S.E. of Muscat. The Tur of Niebuhr on Cape Julfar and the Ṣoor of Palgrave on the Beni Yas coast have, however, no real existence. It is certainly strange that Ṣoor near Ras el Ḥad is not mentioned either by the Hebrew writers or by the classical geographers, but the information afforded by them about the Phœnicians is so extremely meagre that the omission is the less significant. There can, I think, be no hesitation in looking upon Ṣoor as a Phœnician colony. The name alone is sufficient evidence, and its position as being the nearest port in Arabia to India, and the excellent security and suitability of its creek for native craft of the largest size, point it out as a spot which a keen-sighted commercial race like the Phœnicians could not have overlooked or disregarded. It has no harbour properly so called, but its extensive creek, which runs up in a serpentine

direction for nearly two miles, is more adapted for building and hauling up *baghlas* than Muscat cove, and it has the advantage of free and open communication with the interior. It is in short a most advantageous place for such a settlement. The drawback at Ṣoor is the want of good drinking water, which has to be obtained from a considerable distance. It was probably to some extent in connexion with this circumstance that led to the prosperity of the neighbouring town of El Kilḥat, only nine miles distant, where there was also a creek, but smaller and now filled up, and an abundant supply of pure fresh water. The other large island referred to by Pliny in the above-quoted passage is the arid and inhospitable peninsula of Ḳaṭar, which is but thinly peopled, and the inhabitants of which are to this day not particularly civil to strangers. The circumference of Menâmeh is not more than 80 miles; it is about 140 miles distant from the Persian main, and it is separated from Maharrak by a channel of less than $1\frac{1}{2}$ miles. Off this coast the pearl fishery is still, I believe, the most extensive in the world; the average production at the present day being about £200,000 per annum. "We then come to the island of Asclie and the nations of the Nocheti, the Zurazi, the Borgodi, the Catharrei, the Nomades, and then the river Cynos. Beyond this the navigation is impracticable on that side, according to Juba, on account of the rocks; and he has omitted all mention of Batrasave, a town of the Omani, and of the city of Omana, which former writers have made out to be a famous port of Carmania; as also of Homna and Attana, towns which, at the present day, our merchants say are by far the most famous ones in the Persian sea. Passing the river Cynos there is a mountain, Juba says, that bears marks of the action of fire; also the nation of the Epimaranitæ, then a nation of Ichthyophagi, and then a desert island, and the nation of the Bathymi." There is no other island about here to which Pliny's names can be referred with any probability, but, on the east side of Menâmeh island, there is a village called 'Asker, which Pliny, or perhaps the traveller he copied from, may have

mistaken for another island. The Nocheti are unknown to me. The Zurazi (var. Zurachi) and Borgodi are found by Blau at Zurak and Borgod, two towns in El Aḥsa.

The Catharrei are of course the people of Ḳaṭar, and the Nomades refer to the numerous Bedouin tribes on this coast. The river Cynos I believe to be identical with the Lar of Ptolemy, which can be no other than the great watercourse that receives the drainage of south-east Nejd, and finds its outlet at Khor el Dhoan, and is now known by the name of Wady Ṣoḥbeh. Ptolemy says the source of the Lar is in Nejran, by which he only means, I suppose, that it comes from a long distance in the interior, and in this he is right. The Wady Ṣoḥbeh is the only river-bed on this coast at all answering to this description, and though the position laid down by Ptolemy does not quite suit, the natural feature is too marked to be mistaken. The statement of Juba about the impracticable nature of the coast for navigation to the eastward is perfectly true and applicable, as, so far as Abuthabee, it is full of rocks and shoals, and unapproachable by any but the smallest craft, and is a further corroboration of the identity of Cynos with Ṣoḥbeh. Pliny here censures Juba for not mentioning Batrasave and Omana, but though he has the merit of supplying the omission, it is clear he does not know where to locate them himself. The former is most likely Seeb, a commercial town on the shore, thirty miles from Muscat, at the embouchure of the Semail Valley, and a place of considerable trade. Baṭha means a river-bed or watercourse in a sandy country, and Baṭha Seeb is a name retained to this day, though its more frequent appellation is Baṭha Fanja. The city of Omana is Ṣoḥar, the ancient capital of Oman, which name, as is well known, it then bore, and Pliny seems to be quite right in correcting *former writers*, who had placed it in Carmania, on which coast there is no good evidence that there ever was a place of this name. Nearchus does not mention it, and though the author of the Periplus of the Erythræan sea does locate it in Persis, it is pretty evident he never visited the place himself, and he must have mistaken the information he obtained from others.

It was this city of Ṣoḥar most probably that bore the appellation of Emporium Persarum, and in which, as Philostorgius relates, permission was given to Theophilus, the Ambassador of Constantine, to erect a Christian church. Homna and Attana are, I believe, simply repetitions through ignorance of Omana or Ṣoḥar, and Attene or El Khaṭṭ, which he has already mentioned. After, that is to the eastward of Khor el Dhoan, there lies, though Pliny does not notice it, the Sabkhah or Sabkhah Maṭṭiḥ, a strip of marshy ground extending many miles westward toward El Jabrin. This Sabkhah is recognized by the Arabs as the natural boundary between El Nejd and Oman, and hence consequently the description of the Oman coast may properly be said to commence. Ptolemy has a place called Sarkoe (*Σαρκόη*), and Sprenger takes this for Sabkoe (*Σαβκόη*) or Sabkhah, which seems to me a highly probable, and at the same time a very important identification. The Epimaranitæ may be the Âl Murra or Abu Murra, a very widely scattered tribe on the borders of the Great Desert, but Sprenger takes them to be the Abu Neyr, the Nareitæ of Ptolemy, a tribe that gave their name to the island Sir Abu Neyr, but now extinct. The Bathymi are, I have no doubt, the people of Buthabee or Abuthabee, the head-quarters at present of the Beni Yas tribe. This is by far the largest town on the whole pirate coast, having a population of 20,000 inhabitants, but the drawback here, as at Ṣoor, is the scarcity of sweet water. The mountain showing the action of fire is not improbably Jebel Barákbeh, but the low hills on that treacherous shore are all of plutonic origin, as I am informed by a gentleman who has visited it. The term Ichthyophagi does not require much explanation, as it is well known the inhabitants of Abuthabee and the settlements on that coast are entirely dependent on the sea for support, and the appellation could not be more appropriately applied than to them. There is very little intercourse between these nomads of the sea and the still wilder nomads of the desert, but there is a little mart called Redeym, where the latter come at certain seasons to barter their small requirements; there are, however, no

permanent habitations here. The desert island is Jezeeret Abu el Abyad, the largest in the bight, and quite uninhabited, as indeed they are all except Dalmeh.

"We then come to the Eblitæan mountains, the island of Omoenus, the port of Mochorbe, the islands of Etaxalos and Inchobrice, and the nation of the Kadæi. There are many islands, also, that have no name, but the better known ones are Isura, Rhinnea, and another still nearer the shore, upon which there are some stone pillars with an inscription in unknown characters."

We are now advancing along the pirate coast towards Ras Mussendom, and the account before us will be found to display a very intimate acquaintance with the Oman coast. Somewhat out of the exact order Pliny notes first the Eblitæan mountains. This promontory, the most remarkable geographical feature on the eastern coast of Arabia, was called *Μακέτα ἄκρον* by Nearchus, who observed it while coasting along the opposite shore. The sight of it led to a discussion between him and Onesicritus, who wished him to change his course and follow the Arab coast, but he fortunately decided against him. Strabo calls this Cape *τὸ ἐν Μάκαις ἀκροτήριον*. Pomponius Mela calls it Mage, and Marcian Pasabo Mons. Ptolemy names it *Ἀσαβῶν ἄκρον*, and Sprenger considers that Asab is a corruption of the Arabic word Aswad, black. Pliny in two other places refers to this cape; once in chapter twenty-six, when describing the voyage of Nearchus, he says it is where the Makæ, a nation of Arabia, dwell; and again, in the present chapter, he calls it the promontory of the Naumachæi. All this varying nomenclature belongs to Cape Mussendom, and it is observable that the names are of two classes: one derived from the character or colour of the rock of which the cape is composed; the other from the name of the people inhabiting it. There is no tribe in Oman bearing the name M'aka (معكة) at the present day, but there is a trace of it remaining in the valley and village of El 'Akk (العكّ), between Semed and Semail. In Malcolm Inlet there is a village called Maḳaḳeh (مقاقة), and in Elphinstone Inlet one called Makhi, but I do not venture to assert that these

have any connexion with the former name, as the orthography is radically different, and I merely note it as a coincidence. The rocky promontory of Mussendom is at present inhabited by the Shihiyin tribe, with a few Persian and other settlers. The Shihiyin are a very curious and primitive race, and were probably driven into this corner by the influx of more powerful tribes; they do not appear to have attracted the attention they deserve. They hold themselves aloof as much as possible from the Arabs, and do not intermarry with them, I believe, if they can avoid it. The whole tribe is divided into two sections, the Beni Hedeya (بنى هديه) and El Koomâzareh (الكمازره), and a part of the latter, settled at Koomzâr and on the island of Larek, retain a peculiar dialect, which is unintelligible to Arabs, and is probably one of the several dialects spoken in the peninsula before Islam. Omoenus is Umm el Ḳowein, a flourishing little town of the Âl Ali tribe, situated on a low sandy island formed by the intersection of two creeks, Khor Umm el Ḳowein and Khor el Beitheh. The old town was destroyed by the British force in 1819, and was at some little distance from the present settlement. The port of Mochorbe is unknown to me, and I can make no suggestion at all satisfactory to myself. On this coast Bochart and many of the best authorities have located the Raamah of Ezekiel and the Regama of Ptolemy, and the name has been recognized in the present village of Rams, a few miles to the north of Ras el Kheimah. The identity of Raamah and Regama will be acknowledged without hesitation, but the identity of both with Rams will perhaps not be so easily admitted, from the radical difference of the orthography, which appears to me a considerable difficulty. The gens Kadæi I look upon as the people of Kadeh, a village with a date-plantation close to Khasab, or the name may remain in the Makâdeheh, one of the subtribes of the Shihiyin. On this coast lies the *Ἡλίου ἄκρον* of Ptolemy, or the promontory of the sanctuary of the Sun. Allowing Ptolemy's longitudes to be not always quite accurate, I think this can be no other than the triangular peninsula formed by Khor el Sham and Khor Ghûb Ali, and

on which is a high hill called Jebel Sham. If this conjecture be well founded, it is a singular coincidence that the name of the inlet is again changing to Khor el Seem, or Telegraph Inlet, from the fact of the Persian Gulf cable having been landed there, and a station established a few years back.

We have now five islands to dispose of, viz.: Etaxalos, Inchobrice, Isura, and Rhinnea, with one having no name given to it, but remarkable as having an undecipherable inscription on stone pillars. Having regard to the confused state of Pliny's account, we cannot expect to find these islands quite in the order he has given them, and as he has added no description, we have nothing to guide us but the similarity of name and the supposition that he alludes to the more important ones in that sea. Etaxalos I take, therefore, to be the same as Et Tawakkal, an island off Cape Mussendom, and Inchobrice an inversion of Ras Kabr Hindi (Hindi Kabr Ras), the latter probably being a corruption of some ancient name. This is, in fact, only a peninsula, but it is joined by so narrow an isthmus, hardly 100 yards broad, that it was very likely mistaken for an island. Isura and Rhinnea are Selâmah wa Benâtha, the two quoins called also by the Arabs Koseyr and Oweyr. The island still nearer the shore is Mussendom, which still bears the remains of Titanic masonry attributed as usual to the Adites. The stones in this are squared and smoothed similarly to those at Nakab el Hajar, which is not the case, so far as I know, in any other ruins in Oman. The remark about the other islands is fairly correct, as there are numerous rocky islets off the Cape, though probably few of them are nameless. The straits between the island of Mussendom and the mainland are called El Bab, and this is the origin of the name of the Papiæ Islands mentioned in the Periplus of the Erythræan Sea. The Mons Pulcher of the same is Jebel Lahreem or Sh'uam, the loftiest and most conspicuous peak on the whole cape, being nearly 7000 feet high. The next following passage of Pliny I omit, as it should unmistakably have been included in his account of the Red Sea, though he gives no indication here of having

left the Oman coast. "We then come," he continues, "to the Sabæi, a nation of Skenitæ, with numerous islands, and the city of Akilla, which is their mart, and from which persons embark for India. We next come to the region of Amithoscuta, Damnia, the greater and the lesser Mizi, and the Drimati. The promontory of the Naumachæi over against Carmania is distant from it fifty miles. A wonderful circumstance is said to have happened here. Numenius, who was made Governor of Mesena by King Antiochus, while fighting against the Persians, defeated them at sea, and at low water by land, with an army of cavalry on the same day; in memory of which event he erected a twofold trophy on the same spot, in honour of Jupiter and Neptune. Opposite to this place, in the main sea, lies the island of Ogyris, famous for being the burial-place of King Erythros; it is distant from the mainland one hundred and twenty miles, being one hundred and twelve in circumference." The dire confusion in Pliny's mind regarding the configuration of this part of Arabia is well exemplified in this curious passage. Notwithstanding the repetitions and derangement of the proper order, there is but little obscurity; the names and places are as easily recognizable in most cases as if he had correctly defined their positions. Pliny is fond of islands, and he has here indulged himself freely, but he might easily have avoided again mentioning the promontory over against Carmania. Most geographers appear to place Akilla in the Red Sea, identifying it with Okelis, and it is quite evident that both Pliny and Strabo have confounded two places under this name. As I have elsewhere endeavoured to show, this name refers to El Kilḥat, a very ancient town close to Ṣoor, and the numerous islands are the three groups off the Baṭinah coast, which are called in the Periplus of the Erythræan Sea, the islands of Kalaios. Amithoscuta is Muscat, as is also the Cryptus Portus of Ptolemy, an identification too generally admitted to require demonstration. It is impossible to conceive a more felicitous and apposite appellation for it than that given by Ptolemy, and many are the instances I could adduce in illustration of the difficulty vessels

bound for Muscat from an easterly direction have in finding the entrance. Damnia has generally been considered a town, and searched for on the coast, but I take it to be more likely meant for the Deymâniyeh islands, the centre of the three groups lying off the Baṭinah coast, and consisting of seven islands nearly opposite to Barka; they have been already mentioned as the islands of Akilla. It would appear at first view as if Pliny had omitted to mention the promontory of Ras el Ḥad, from which point the coast falls to the south and west. It is true he does not notice the existence here of a promontory at all, and the omission is certainly a remarkable one, but it happens curiously enough that he does mention the very same and much more peculiar natural feature, the name of which has been transferred by Ptolemy to the headland. By the eminent geographer D'Anville, the promontory of Syagros was assigned to Ras el Ḥad, and though this error has been rectified by Dr. Vincent in favour of Korodamon, the latter name has always remained a puzzle which will, I venture to hope, be considered removed by the recognition of Korodamon in Khor Jerâmah. Further, it is easy to discern the identity of the region of the Drimati or (stripped of its Latin termination) Derima with Jerâmah and Odamon, and I therefore look on them all as one and the same name and place. The Cape Ras el Ḥad is in itself a low sandy point, with nothing remarkable about it to attract attention. The feature noticed by Pliny and Ptolemy, on the contrary, viz. Khor Jerâmah, is a capacious and invaluable natural basin and harbour of refuge, and is exactly what would necessarily have fixed itself in the minds of the navigators of that age, who were compelled to creep carefully along the coast and take advantage of every available shelter. At the commencement and end of the monsoons crowds of *baghlas* may be seen collected together in this lagoon, lying as safe as if in dock, filling up cargo and stores from Ṣoor, preparatory to starting on their voyage for the season. Khor Jerâmah is at present in possession of the Málkhi tribe, and at the bottom of it are the ruins of an ancient town called

Lebeed.[1] The greater and lesser Mizi are obscure; the former is perhaps meant for the island of Maseera, and the latter may be the largest island of the Kuria Muria group, or they may both refer to this group. The first syllable of Naumachæorum Promontorium is evidently due to corruption, and certainly does not properly form part of the name. Sprenger ingeniously suggests that Nau is for Ras Nus in Kuria Muria Bay, which seems a very happy and probable identification. The wonderful circumstance that happened here to Numenius derives more wonder from the locality at which it took place, that is, if Pliny really means that the battle was fought at Cape Makæ, but it seems to me more probable that Carmania was the field of it. If it was Mussendom, it must have occurred somewhere in the vicinity of Ras el Kheima, but even here the country is quite unsuited for cavalry, as there is no grass or forage for horses along the whole of the pirate coast, and how Numenius' army of cavalry managed to support itself is not easy to conceive. The island of Ogyris is Maseera, the Serapis of the Periplus, which is, however, only nine miles from the mainland, but it is creditable to Pliny that he gives it the same circumference as the island of Tylos, which is quite correct; they correspond in size almost exactly. Pliny now passes on to Hadramaut, whither I have no intention of following him at present. In another passage further on, however, he appears to return again to the Persian Gulf, as some of the names undoubtedly belong there, but there is so much doubt and confusion that it seems hopeless to unravel it satisfactorily. He says: "Next to these are the Chaculatæ, then the town of Sibi, by the Greeks called Apate, the Arsi, the Codani, the Vadei, who dwell in a large town; the Barasasæi, the Lechieni, and the island of Sygaros, into the interior of which no dogs are admitted, and so being exposed on the sea-shore, they wander about there and are left to die.

[1] It has been surmised that the Ras el Gate of the Portuguese is a corruption of Ras el Ḥad. But the Ras el Gâd (راس القاد) of the Arabs is at Ṣoor, just fifteen miles from Ras el Ḥad, and there can be little doubt, I think, that the Portuguese pilots confounded the names of two neighbouring headlands.

We then come to a gulf which runs far into the interior, upon which are situate the Lænitæ, who have given to it their name; also their royal city of Agra, and upon the gulf that of Læana, or, as some call it, Ælana; indeed, by some of our writers this has been called the Ælanitic Gulf, and by others again the Ælenitic; Artemidorus calls it the Alenitic, and Juba the Lænitic." Who the Chaculatæ are I cannot guess even. The town of Sibi is probably Seeb, which he mentioned above as Batrasave, the word Apate being the equivalent of El Baṭha. The Arsi are perhaps the Harth, a powerful tribe in Oman; the Codani, the Beni Ḳoḍha. The Vadei I take to be the inhabitants of Wady Semail, the most populous valley in Oman, and in which is the large town of Semail. The Barasasæi seem to be the people of a place in Maseera Island, called Abu Rasas, the island itself being called just after Sygaros, a variation, doubtless, of Ogyris. The Lechieni are identified by Sprenger with the Liḥyan tribe in the Persian Gulf, and are the same as the Læanitæ; but Pliny has made terrible confusion here by confounding the name with that of the Elenitic Gulf in the Red Sea.

ART. VIII.—*The Maldive Islands: with a Vocabulary taken from François Pyrard de Laval*, 1602–1607. By A. GRAY, late of the Ceylon Civil Service.

IT is one of several disadvantages which the island of Ceylon has had to endure in its political separation from the Anglo-Indian empire, that its language has until lately been left out of the category of Indian tongues, and has received but little attention, except from the few scholars whom so small a country has been able to produce. There has also been an unfortunate wrangling among those who have touched the subject as to whether Sinhalese is a Turanian or an Aryan tongue. This dispute has now for some time been settled in favour of the Aryan origin; and we can but repeat the surprise of Professor Childers that Mr. Beames should omit the Sinhalese in his "Comparative Grammar of Modern Aryan Languages of India."[1] The mere mention of the name of Childers recalls the immense loss occasioned to Ceylon literature by his death—a loss which has been sadly crowned by the death of Dr. Paul Goldschmidt, at a time when his two years' labours in the island were about to bear fruit. It will not be long, we trust, ere others equally competent will be induced to devote themselves to the work which these eminent scholars pursued.

It was Dr. Goldschmidt's task to investigate the history of the Sinhalese language back to its Indian sources, to define as accurately as might be the influences of Sanskrit and Pali, and to note its correspondence and kinship with the other descendants of those ancient tongues, and finally to mark its history through the period when it was known as Elu down to the Sinhalese of to-day. A study of Sinhalese and of the

[1] See Childers, J.R.A.S. N.S. Vol. VII. p. 40.

Sinhalese inscriptions was of course the first and principal stage; but the work would not have been complete without an examination of the dialect of the Maldive Islands, where, as has long been known, a race of Sinhalese origin resides, and a language of Sinhalese descent is spoken. And it was during Dr. Goldschmidt's first year in Ceylon, while I was in almost daily intercourse with him, that a visit to the Maldives was suggested, which was fated never to be performed. On my return to this country in 1876, it struck me that the vocabulary which I now offer might be of some use to Dr. Goldschmidt, before he could visit the islands himself, and it was chiefly with this view that I compiled it. I was also aware that the late Governor of Ceylon, Sir W. Gregory, had long entertained hopes of being able to visit these islands during his term of office; but he has returned to Europe without effecting a journey which would have had results as important and beneficial to those concerned as have accrued to Ceylon from his æsthetic tastes and kindly interest in things native.

François Pyrard of Laval in Bas-Maine was one of a company of French adventurers, who, incited by the reports of great discoveries made and vast wealth gained by the mariners of other countries in the sixteenth century, equipped two vessels, which left St. Malo in Normandy in the year 1601. Pyrard was on board the *Corbin*. Both vessels rounded the Cape, and left Madagascar in safety; but the *Corbin*, piloted by an Englishman who had lost his bearings in the Indian Ocean, was wrecked on the Malosmadou Atoll of the Maldives on the 2nd July, 1602. The crew were taken captive, and all the property recovered from the wreck became by Maldive law the property of the king. The subsequent history of the captives bears a strong resemblance to that of Knox's crew in Ceylon. They were dispersed to various islands, to prevent conspiracy to escape. Some were executed, many died from sickness. Pyrard, by learning the language and conducting himself discreetly, won, as Knox did, the favour of his guardians, and, finally, of the king; and in the same way was allowed to go from island to island for

purposes of trade. His captivity was shorter than that of Knox. In 1607, when he had been five years at the islands, the King of Bengal made a descent with a powerful fleet manned by Mukwas, ravaged the islands, slew the king, and conveyed Pyrard to India. Here he underwent many further adventures and more captivity, and it was not till 1611 that he once more set foot on the beloved soil of France. His adventures, and his evident honesty in their narration, created so warm an interest in the publication of his book, that it went through no less than four editions in the seventeenth century.

Regarding these editions it is necessary to make the following remarks.

1st, of 1611, 8vo., published the year of Pyrard's return. It is hardly one-fifth the size of the third or fourth edition, and was evidently a hasty sketch of a story which was creating interest at the time. It is said to have been written not by Pyrard himself, but, at his dictation, by Pierre Bergeron. Querard, in his "Superchéries Litteraires Devoilées," remarks: "Une premiere redaction bien moins developpée avait été publiée avec le nom de Pyrard. . . . Huet a mentionné sur son exemplaire possedé par la Bibliothèque impériale que Pyrard n'avait fait que fournir les memoires sur lequels Bergeron ecrivit cette relation: ce fait est confirmé par le témoignage de Sorbiere qui declare 'ce Pyrard chirurgien assez idiot et qui n'eût pas esté capable de former un discours de longue haleine' (Sorberiana, p. 115)."

2nd, of 1615–16, 8vo. I have not seen this edition. It is not in the British Museum. I find, however, from the French Catalogue of Voyages, that it is in all probability the same as the third. It contains the Maldive vocabulary.

3rd, of 1619, 8vo. This is the edition I have used, preferring it to the fourth, as it was published under the supervision of the author, and contains the vocabulary.

4th, of 1679, 4to. This edition was edited by Duval, after the death of Pyrard. It seems to be a careful reprint of the third, but for some reason the vocabulary has been omitted.

Besides these French editions, the work has been translated

into Dutch and Portuguese. Abridgments of it will be found in most French collections of voyages: I may instance Histoire de Voyages (La Haye, 1753), vol. 10; Charton, Voyageurs Anciens et Modernes (Paris, 1856), vol. 4. Also in English, in "Purchas's Pilgrims," and "The World Displayed," vol. 10. A few pages have been translated by Capt. Owen, I.N., in the Lond. Geog. Journ. vol. ii. The book has not received the attention it deserves in England, and I am not aware that Ceylon possesses a single copy of it. It does not appear in the Catalogue of the Ceylon Asiatic Society's Library, and, although I have not a list to refer to, it is unlikely that a book so little known should be in the Colombo Library. Even if it be there, I presume that some advance in the knowledge of the Maldive language may be made by republishing the interesting vocabulary of Pyrard. The only other vocabulary with which I am acquainted is that given by Lieut. Christopher, R.N., in the J.R.A.S. Vol. VI. o.s. p. 42. Mr. Christopher was engaged under the Indian Government in the survey of the Atolls, and during his residence there he seems to have obtained a considerable acquaintance with the language.[1] As it will be of great importance to scholars to compare the language of the beginning of the seventeenth century with that of the nineteenth, I have placed side by side with Pyrard's the words given (whenever given) by Christopher to express the same idea. I have not thought it necessary to copy the whole of Christopher's vocabulary, for two reasons: (i.) the J.R.A.S. is accessible to all scholars; (ii.) the language as given by him is that of to-day, and any one who visits the Atolls will find living dictionaries of more than the thousand words or so given by Christopher.[2]

[1] Mr. Christopher obtained leave from the Bombay Government to remain after the Survey was completed for the purpose of studying the people and language. His stay extended from June, 1834, to September, 1835.—Trans. Bom. Geog. Soc., vol. i. p. 55.

[2] No attempt can yet be made to discuss the question of Maldive grammar; though, if my information is correct, Mr. L. de Zoyza Mudaliyar is collecting materials for the purpose. The Ceylon Government would do well to hint to the Maldive Sultan that a few manuscripts would be a more acceptable offering than the cowries, liquid fish and cakes brought by the last annual Ambassador.

From a comparison of Pyrard's Maldivan with Sinhalese, philologists may be able to hazard an opinion as to the date of the separation of the races. I will translate here Pyrard's remarks on the origin of the Maldivans:

"The natives hold that the Maldives were formerly peopled by the Cingala (so the inhabitants of Ceylan are named), but I find that the Maldivans do not at all resemble the Cingala, who are black and ill shapen. The former are well shaped and proportioned, and differ but little from ourselves, except in their colour, which is olive. Yet it may be believed that the climate and lapse of time have rendered them more fair than were those who first colonized the islands."

Again, "They say that the Maldives began to be inhabited about 400 years ago [circa A.D. 1200], and that the first who came and peopled them were (as I have already said in passing) the Cingalles of the island of Ceylan, which is not far distant, and were idolators, but have since changed their religion, it being about 150 or 200 years at most since they received Mahometanism through the Moors and Arabs, who, while trading over all the continent and islands of India, brought there also their law, which has since remained in most of those parts.[1] It also appears that it was then that the Tartars, who extended their dominion throughout the East, and even to these islands, became infected with this accursed and false doctrine of Mahomet. The Maldivans have ever since retained this faith even to the present time."

In the second part of his book Pyrard has a chapter on Ceylon, which commences thus:

"While I was at Goa with the Portuguese, I was a soldier in most of the armies which they equipped while I sojourned among them, chiefly on the coast where Goa is, in the island of Ceylan, in Malacca, Samatra, Java, and other

[1] Ibn Batuta, while residing at the Maldives, married, about 1340 A.D., the daughter of a vizier who was grandson of the Sultan Daoud, who was the grandson of Chenourāzah, the first king who embraced the Muhammadan faith.—Ibn. Bat., Paris, 1858, vol. iv. p. 154. The probable date of the conversion is therefore 1200 A.D. Ibn Batuta saw the record engraven in wood in the chief mosque, *v.i.* p. 181

islands of the Sound, and the Moluccas, and was paid as the others."

He did not apparently serve long in Ceylon, and perhaps did not go beyond the Portuguese fortresses of Colombo and Galle. His knowledge of the Kandyan kingdom amounts to this: "The principal and greatest king of the island is called *Rashil;* there are many other kings." He mentions that the Sinhalese "wear their hair long, as do the Maldivans." When he says that the Maldivans are olive and the Sinhalese black, one is tempted to think that he served only in a Tamil district of Ceylon, and never saw the fair-skinned Kandyans. I shall point out hereafter that Pyrard knew of Tamil only as the language of Ceylon.

The date given by Pyrard of the colonization of the Maldives (A.D. 1200) must be put back several centuries. Pappus of Alexandria (end of the fourth century A.D.) reckoned 1370 islands as dependencies of Ceylon.[1] Fah-Hian (beginning of fifth century A.D.) says: "On every side (of Ceylon) are small islands, perhaps amounting to one hundred in number. They are distant from one another ten or twenty *li*, and as much as two hundred *li*. All of them depend on the great island. Most of them produce precious stones and pearls" (Beal's Buddhist Pilgrims, p. 148). We hear also of these islands from Ptolemy and Cosmas. Both lead us to suppose that they were inhabited in their day. Cosmas (sixth century) says: "Around the island (Taprobane) are a great number of small islands; all possess fresh water, and are planted with coco-nut. They are situate very close to each other." He gives them no name.

Suleyman, the Persian traveller of the ninth century (see Reinaud, Relation des Voyages faits par les Arabes, et les Persans dans l'Inde et à la Chine dans le ix^{e} siècle), calls them Dybadjat,[2] and mentions that "they are governed by a queen, that they are all inhabited, and that a brisk trade

[1] Moses Chorenensis, by Whiston, 1736, p. 367.

[2] Afterwards corrupted by Arab writers to Rybahât, and by the French to Roibahât.

was carried on in cowries, amber, and coir." A notice of the Maldives will also be found in the travels of the two Muhammadans (ninth century), a translation of which is given in the seventh volume of Pinkerton's Voyages.

Albyrouny (eleventh century) calls them all Dyvah, dividing them into Dyvah Konzah, *i.e.* Cowrie Islands, and Dyvah Kanbar, the Coir Islands, from their chief products.[1]

I find no mention in Pyrard of any other race who may have yielded to Sinhalese conquerors, and if the Sinhalese were the first colonists, they were probably there as far back as the Christian era, when Ceylon was a powerful monarchy. There are probably many passages in the various unpublished Sinhalese books bearing upon the relations of the Maldives with Ceylon prior to the Portuguese advent, and the Sinhalese pandits would do a service by extracting such information. Of demon worship, bali worship, and Sinhalese superstitions generally, abundant illustration is afforded by both Pyrard and Christopher, in descriptions which have their counterpart in Knox's 'Ceylon.' On the other hand, there are but few traces of Buddhism.[2] The principal festival, that of *poycacan*, celebrated at the full moon of April or May, at once recalls the 'depōya' (full moon) of Wesak (May), when the Sinhalese commemorate the attainment of Nirwana by Gautama. But the Maldivans attribute the origin of the festival to the first introduction of rice to the islands, which would connect it rather with the 'Alut Sāl,' or new rice, festival of Ceylon (held in January), than with the thoroughly Buddhistic holiday of May (v. *infrà*, p. 201, s.v. *Poycacan*). It can hardly be that the Maldivans, living in close proximity, if not subject,[3] to the Sinhalese,

[1] Journ. Asiatique, 1844, p. 265.

[2] Lieut. Christopher remarks (Trans. Bom. Geog. Soc. vol. i. p. 313), that he had been informed by a Buddhist priest that two Buddhist temples remained in two of the islands, the names of which, however, he forgot. The name of one of the islands of Malé Atoll is *Veharmanharfooree*, 'the delightful city of wihāras.' It is also said that the Maldive dead are buried in the posture of the statues of the recumbent Buddha, *i.e.* with the right hand under the right ear, and the left on the left thigh, the body being laid on the right side. Christopher also says that the bo-tree is still grown at the mosques, and held in veneration.

[3] Tennent's Ceylon, vol. ii. p. 175. Beal's Buddhist Pilgrims, p. 148. Moses Chorenensis, 1736, p. 367.

escaped conversion during those centuries when the missionary spirit was still in Buddhism, and they themselves had only a barbarous faith; yet the traces of an intervening Buddhism are curiously faint.[1] Whatever further inquiry in that direction may prove, the picture presented by the modern religious state of the two branches of the Sinhalese family is curious indeed. The one has held to the cosmopolitan principles, the atheistic creed, and the simple worship of the Buddhist faith; the other has adopted the exclusive, monotheistic, and ceremonious faith of Muhammad. These religions have not, however, altered to any extent the characteristics of the race, and both have suffered the co-existence of the older worship of demons and of the elements,—a common inheritance of both branches of the family, but an alien to both their creeds. It may be that during long centuries no life was imparted to Maldive Buddhism from Ceylon, and that the religion of 'the Blessed One' at last flickered to extinction, while the barbarous rites and superstitions of the dewales and the groves remained connected in the native mind with those purely temporal ills from which in their daily life men sought deliverance. Such must have been the religious state of the Maldives when the Arabs began to frequent the Atolls—a worship of devils who brought sickness, and of the wind and stars who ruled the sea—and it must have been without real resistance that another realm was added to the vast spiritual empire of Islam.[2]

[1] The modern Maldive for 'image' is *budu* (J.R.A.S. Vol. VI. p. 57). Ibn Batuta (Paris ed. 1858, vol. iv. p. 126) mentions *boudkhānah* 'an idol temple'; see next note. The word *bodd*, however, was a general term for an idol temple with the Arab Oriental travellers, and seems only to indicate that the Buddhist parts of India were the first visited by the Arabs.—Journ. Asiat. 1845, p. 167.

[2] The story of the Muhammadan conversion, as given by Ibn Batuta, containing so curious a record of the superstitious worship mentioned by Pyrard (v.i. sub v. *Siare*), and existing at the present day, should not be omitted in this connexion:—"When the people of the islands were idolators, there appeared to them every month an evil spirit, who came from the sea, resembling a ship filled with lamps. It was the custom of the natives when they beheld him to adorn a young virgin, and to conduct her to a *boudkhânah*, or temple of idols, built on the shore, and having a window by which she could be seen. They left her for the night, and when they returned in the morning they found her violated and dead. So every month they cast lots, and he on whom the lot fell gave up his daughter. In course of time arrived a Maghrébin, named Abou'l Berecât, the

I have collected the remarks of Pyrard concerning the Maldive language, and will now give a translation of them. The reference before each passage is to the page of the third edition of Pyrard's Voyage.

P. 138. "There are two languages in use. The first is that peculiar to the Maldives, which is a very full one. In the five years and more which I spent there I had mastered it as though it were my mother-tongue, and was quite familiar with it. The second is the Arabic, which is much cultivated, and is learnt by them as Latin is with us. It is also used in their daily prayers. Besides these, there are other languages, such as those of Cambaye, Guzerati, of Malalaca, and the

Berber, who knew by heart the glorious Korān. He lodged in the house of an old woman at Mahal. One day he found her family assembled, and the women weeping as at a funeral. He asked but could not be made to understand the cause, until an interpreter came who told him that the lot had fallen upon the old woman, and that she had one only daughter. Abou'l Berecât then said to the old woman, 'I will go to-night in thy daughter's stead': he was then entirely beardless. So at night, after his ablutions, be was led to the idol temple. There he set himself to recite the Korān, and in a while beheld the demon. He continued his recitation, and the demon, as soon as he came within hearing of the Korān, plunged into the sea. So when it was dawn, the people, who came as was their custom to remove and burn the corpse, found the Maghrébin still reciting the Korān. He was conducted to the King, named *Chenourāzah*, who was astonished to hear what had happened. The Maghrébin then proposed to bim to embrace tbe true faith, and pressed him to receive it. But Chenourāzah said, 'Stay with us till next month: and if you do again as you have now done and escape the evil genie, I will be converted.' The stranger remained, and God disposed the heart of the King to receive the true faith. He became Mussulman before the end of the month, witb bis wives, children, and court. At the beginning of the following month the Magbrébin was conducted to the idol temple; but the demon came not, and he recited the Korān till the morning, when the Sultan and his subjects arrived, and found him so employed. They then broke the idols and razed the temple to the ground. The people of the island embraced the faith, and sent messengers who converted the other islanders also. The Maghrébin remained among them and enjoyed their high esteem: and it was the doctrine of his sect, viz. that of the Imām Mālik, wbich the natives professed. Even at present they respect the Maghrébines for his sake. He built a mosque which is known by bis name. I have read the following inscription graven in wood on the enclosed pulpit of the grand mosque: '*The Sultan Ahmed Chenourāzah has received the true faith at the hands of Abou'l Berecât, the Berber, the Maghrébin.*' . . . . One night before I knew of tbese things, when I was at one of my occupations, I heard of a sudden people crying with loud voice the formulæ, 'There is no God but God,' and 'God is very great.' I saw children carrying Korāns on their heads, and women rapping the insides of basins and vessels of copper. I was astonished and said, 'What is happening?' and tbey replied, 'Do you not see the sea?' Upon wbich I looked and saw a kind of large vessel, seemingly full of lamps and chafing-dishes. One said to me, 'It is the demon: he shows himself once a month: but when once we have done as you have seen, he returns and does us no harm.'"—Ibn Bat., Paris ed. vol. iv.

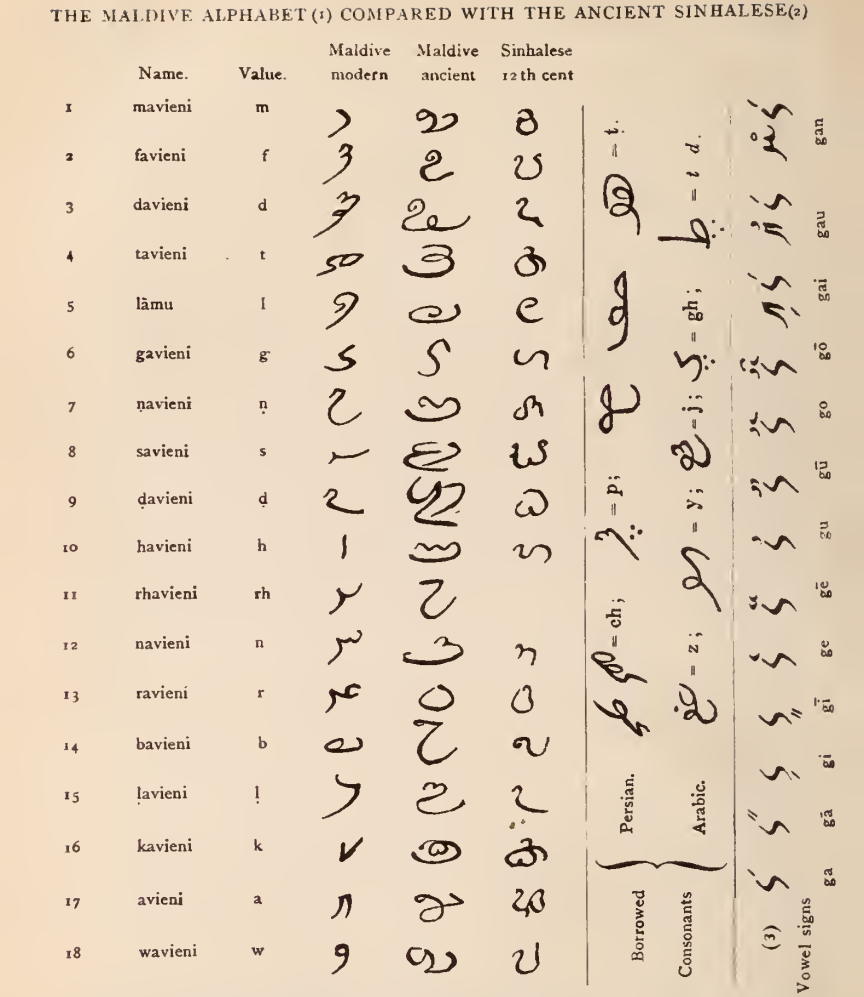
Portuguese,[1] which some learn for the sake of trade, and by reason of the communication they have with those peoples. In the Atoll of Souadou and towards the south they speak a language hard to understand, rough and barbarous, but still it is the common (Maldive) language."

Appendix. Introduction to Vocabulary. "I have remarked in many places in my book on the diversity of languages which are current throughout the East Indies; and I shall content myself here with merely repeating that at Goa and its environs, besides the Portuguese, which is the chief one in vogue, there is a native language called *Canarine* (Canarese); then there is the *Malabar*, which prevails along the whole length of the Malabar coast, then in Zeilan[2] and Cape Comory as far as Goa; for on the coast towards the east they speak generally the *Guzerate* language, which extends over the continent and the country of the Great Mogul, and is spoken also in Cambaye, Bengale, Bisnagat, and elsewhere, differing only in its dialects and idioms. And in Malacca there is the Malay language, which prevails over a wide extent, even to the isles of the Sound, Sumatra, the Javas, Moluccas, and others. As for the Maldives, they have a language apart, which is spoken only in these islands, and the best is spoken in the northern islands more immediately under the king. For towards the south they speak barbarously, being further from the coast, and from traffic with other nations. Besides this vulgar tongue there is also the Arabic, for the affairs of religion and the sciences, as Latin is with us, and is only spoken and understood by the priests and the learned. I could have made a complete dictionary of the vulgar tongue, as my long residence had given me a sufficiently large and exact acquaintance with it, but, not to weary my readers, I will content myself with giving some of the principal and more necessary words, which will satisfy even the most curious."

[1] The Portuguese overran the Maldives in the sixteenth century, having discovered them in 1506, the same year in which they first visited Ceylon. The Maldivans afterwards rebelled, and obtained a treaty according them the same independence which they at present enjoy under the British Government.

[2] Here again is a proof that Pyrard was acquainted only with Tamil Ceylon.

THE MALDIVE ALPHABET (1) COMPARED WITH THE ANCIENT SINHALESE(2)



NOTE. (1) The Maldive alphabet is taken from Christopher's list, carefully compared with his facsimile of a Maldive letter. (J R. A. S. Vol. VI.)

NOTE. (2) The Sinhalese letters are taken from a photograph of the inscription of Nissanka Malla (A. D. 1191.) discovered at Anurādhapura in 1874.

NOTE. (3) The vowel signs are called *fili*, or severally, *aba*, *ābā*, *ibi*, *ībī*, *ebe*, *ēbē*, *ubu*, *ūbū*, *obo* and *ōbō*, *fili:*

"Only six consonants can take the sokun (◦) over them, and consequently these only can terminate a syllable; they are a, ṇ, ṉ, rh, s, & t. and in this case with the exception of s, their sounds receive some modification: a becomes g; n or ṉ sometimes take the sound of ng; t is sounded like a very short i; and rh merely takes the sound of the following consonant, giving an emphasis to the syllable it terminates: but when rh terminates the word it is silent, and appears wholly unnecessary, except for the division it causes, but the natives cannot understand writing without it." Christopher in J. R. A. S. VI. 45. There is no inherent vowel 'a'; accordingly every consonant has either a vowel sign or the *sokun:* in the latter case, if the consonant cannot take the *sokun*, it is changed to one which can. The initial vowels are formed by the quasi consonant 'a' with the appropriate vowel sign, and the second of two vowels following a consonant is expressed in the same way, thus 'gai' is written 'g' with the vowel sign 'a' followed by the quasi-consonant 'a' with the sign 'i'.

P. 142. "The priests teach the children to read and write the language of the country and the Arabic."

P. 205. "Their studies are to learn to read and write, and to learn their Alcoran, for they are all obliged to have a knowledge of that. The letters are of three kinds: (i.) the Arabic, with some letters and points, which they have added to express their own language; (ii.) another whose characters are peculiar to the Maldive language; (iii.) a third, which is common to Ceylon and a great part of India."

It may be concluded with confidence that the third alphabet here mentioned is not the Sinhalese, but the Tamil.[1] Had Pyrard known the Sinhalese, he could not have said that it was common to a great part of India. Tamil was probably at that time, as it is now in the bazárs of Ceylon, the language of trade. We have here another proof that Pyrard knew little of Sinhalese Ceylon. The second alphabet mentioned was doubtless that derived from the Sinhalese, part of which is in use in the Maldives at the present day. Mr. Christopher, in the paper above quoted, has given a list of the Maldive characters ancient and modern, and Mr. Prinsep has given another (J.R.A.S. Beng. vol. v. p. 784), obtained from the captain of a Maldive vessel at Calcutta.

I am enabled to give, on the plate opposite this page, lists of the Sinhalese and Maldivan letters in parallel columns, from which the resemblance between the Old Maldivan and Old Sinhalese will be apparent. The last nine of the old letters have been abandoned in favour of the first nine Arabic numerals. Formerly the Maldivan language was written from left to right, but since the supremacy of Muhammadan literature it has been written from right to left.[2] It will be

[1] And so thinks the Portuguese editor, Viagem de F. Pyrard, Nova Goa, 1858, vol. i. p. 160.

[2] Prinsep (J.A.S. Beng. vol. v. p. 784) states that modern Maldivan is written from left to right; but with all respect to so great a name, I fear he was mistaken. I will here quote what Christopher (Bom. Geog. Soc. vol. i. p. 54) says on the subject: "The different written characters found on tombstones on the Maldive islands are of three kinds: 1. The most ancient are called by the natives *Dewehi* Hakura (letters of the gods?) which in all likelihood were used by the first inhabitants, but now the knowledge of them is nearly lost, being confined to a few individuals. In the Southern Atolls a knowledge of this writing appears to have been retained longest, for it is not remembered in the Northern

hard to find another historical instance of so radical a change.

I am not aware whether the Ceylon Asiatic Society or the Ceylon Government possess any of the Maldive charts, specimens of which would certainly be interesting objects in the New Museum at Colombo. Pyrard (p. 112) says: "I have seen many Maldive charts with the dangerous reefs accurately described." Emerson Tennent mentions that he too saw them.[1] It is also stated in Mr. Christopher's paper[2] that Sir A. Johnston, late Chief Justice of Ceylon, presented two such charts to the Asiatic Society, as well as a "copy in the Maldive language of the book of astrology, according to which the navigators decided upon the days of departure from, and the arrival at different places, and the probable success of their voyage."[3]

ones at all, whereas orders are now written at Malé in this character for the inhabitants of the South Atolls. No old manuscripts with this character are preserved. One peculiarity in the alphabet is that some of the consonants change their form according to the various vowel-sounds with which they are united, the construction of the letter being altogether different. This character is written from the left hand. 2. Arabic (most inscriptions are in it). 3. Modern Maldive, called *Gabali Tana*, written from the right hand, was introduced when the Portuguese garrison was overcome, and Muhammadanism re-established by a chief and men from the Northern Atolls, and is now used throughout the islands. The language spoken is substantially the same in all the Atolls, though the Southern ones have a dialect of their own, and as they possessed a knowledge of the ancient writing longest, it is very probable that their dialect will have the most resemblance to the language of the aborigines, for, in consequence of the intercourse with Bengal and other parts, the language now spoken at Malé is intermixed with many foreign words. There are several kinds of Tana writing; and we are inclined to think that the one at present used was not generally adopted until within the last fifty years, as many tombstones are evidently inscribed in a character differing from the Gabali Tana: the letters at least have a different sound, and the signs for vowels are different." The mariners who conversed with Prinsep could not have been some of the few individuals who knew the "Dewehi Hakura," for the letters used by them are clearly the Gabali Tana, containing the nine Arabic numerals. I cannot account for the fact that the few words in Maldive character given in Prinsep's plate are written from left to right, except on the inference drawn from Christopher's assertion of the present use of the *Dewehi Hakura*. The orders issued to the Southern Atolls may be not only written in the ancient character, but also in the ancient direction, *i.e.* left to right. If Prinsep's informant was a Government officer, or a man from the Southern Atolls, he may have been able to use both methods. As to the ordinary method there is no doubt. (See the facsimile of a Maldive letter in the Journal of the Royal Asiatic Society, Vol. VI.)

[1] Ceylon, vol. i. p. 612, note.

[2] J.R.A.S. Vol. VI.

[3] I regret that neither charts nor book can be found at present in the Library of the Royal Asiatic Society. Mr. Vaux, however, entertains hopes of coming upon them in the course of his labours upon the new catalogue.

Before proceeding to give Pyrard's vocabulary, I must remind those who peruse it—

(i.) That Pyrard was a Frenchman: the Maldive words must therefore be pronounced as if they were French, in order to sound as Pyrard intended them to sound.

(ii.) That in old French printing *v* is used only as an initial; elsewhere in a word *u* is invariably used.

In my transliteration of the Sinhalese words I have not attempted to keep pace with the most modern philologists. Their rules change so often, that I may be pardoned when I confess that I do not know exactly what they are at present. To take the word "Sinhalese" as an instance; first we had Singhalese; Mr. Childers introduced Siṇhalese, then Sinhalese; and lastly Dr. Goldschmidt wrote Siṁhalese.

To show the resemblance better to the words given by Pyrard, who (being French) uses *v*, I have written the Sinhalese *v-w* in some cases *v*, though in my opinion, if we wish to give an equivalent which shall represent the Sinhalese letter *v-w* in English speech, we should use the letter *w*. Take as an instance the word for "to become": does *venavā* represent the Sinhalese pronunciation? or does *wenawā*? or the word for "a tank," does *vœva* so well as *wœwa*? It seems to me that the great object is to transliterate according to the correct sound of the language in question, and that we should avoid the use of letters which not only fail to give that sound, but often give quite another.

It will be observed that Christopher invariably writes *f* in place of Pyrard's *p*, when they give the same words, in fact that there is no Maldivan *p* in the alphabet given by Christopher; the Persian letter being borrowed when required. The *ph*, however, of the ancient writing, is clearly the Sinhalese *p*, which has degenerated not only into *f*, but also in many cases, according to Christopher, to the mere aspirate.[1]

[1] See plate opposite p. 183.

I. Pyrard's Maldive Vocabulary.

English.	Maldive.		Sinhalese.[1]
	Pyrard.	Christopher.	
God	Calangue	Kalangē	—
paradise	souergue	suwaruge	swarga
hell	narque	naraka	naraka
angel	roüa[2]	malakatu	—
devil	chaitanne[3]	saitānu	—
Lucifer	Pourete	—	Purœhuta[4]
evil spirit	ybilis[5]	jinni	—
good deed	daroumant	—	daruma
prayer	aloquan coura[6]	—	—
sin	papa	fāfu	pāpa
love	niet	lōbi	—
will	rohon	—	—
law or religion	dime[7]	dīn	—
understanding	bouddy	buddi	bodhi
soul	pourane	furana[8]	prāna
world	donia[9]	dunniya	—
heavens	ouddou	uḍu	udā
sun	yrous	iru	iru
star	tary	tari	taruwa
star of the north	gaa	—	—
southern cross	cally	—	—
planets	naquate	—	nakat
north[10]	outourou	—	uturu
south[11]	deconnou	—	dakunu
east[12]	yroüez	iru	iru
west[13]	olangon	—	—
fire	alipan[14]	alifang	—
water	penne	feng	pœn

[1] The Sinhalese words in this column, some of which are borrowed from Sanskrit, and some, though Sinhalese, are not in colloquial use, have special reference to Pyrard's vocabulary, and are not intended to illustrate Mr. Christopher's, all of whose words are not given.

[2] Chr. gives *rūha* 'spirit,' 'life,' Ar. *ruh*.

[3] Ar. *shaytan*.

[4] Epithet of Indra—Clough.

[5] Ar. *iblis*.

[6] Ar. *allah*.

[7] Ar. *dīn*.

[8] With meaning 'life.'

[9] Ar. *dunyā*.

[10] Prinsep gives *gao* as the word in use, *vide* sup. *gaa*.

[11] Prinsep gives *suhil*.

[12] Prinsep gives *iruwā*.

[13] Prinsep gives *hulagu*.

[14] Comp. Sin. *eliya pāna*.

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
earth	bin	bing	bima
sea	candoue	kaḍu	—
clouds	vilas	wilā	valā
thunder	gougourou	guguri	gigiri [1]
lightning	vidi	widani	vidu
rain	varé	wāre	varusā
wind	vaé	wāe	vā
tempest	vissare	—	visāri
dew	pini	fini	pini
day	duale	duas	dawal
night	regande	rē	rœ
noon	medurou	menduru	maddāna
midnight	medan	—	demaddan
morning	indunon	hendung	—
evening	auire	hawiri	hawasa
to-day	adu	—	ada
yesterday	yé	īyye	īyē
to-morrow	madaman	madama [2]	—
past time	eyouduas	—	—
future	paon duas	—	pœmini dawas
hour	dam	ṣahāḍu [3]	—
Sunday	Adyta [4]	Ādīta	—
Monday	Homa	Hōma	Homadina [5]
Tuesday	Engare	Anggāra	Angaharuwādā
Wednesday	Bouda	Buda	Budadina [6]
Thursday	Bouraspaty	Burasfati	Brahaspatindā
Friday	Oucourou	Hukuru	Sikurādā
Saturday	Onnyre	Honihiru	Senasurādā
month	masse	mas	mase
clear	aly	ali	eliya
dull	endiry	andiri	andura
'tis day	aly viligué	—	eliya
'tis night	reuequé	—	rœ
life	dyril	—	diwi
death	mare	—	marana
sickness	bally	bali	bali [7]
fever	homan [8]	hung	—

[1] And the verb *gorawanawa*.
[2] Also stands for 'yesterday.'
[3] Ar. *sahāt* 'hour.'
[4] Pali *athit*, Sans. *aditiya*.
[5] The ordinary Sin. is *handudā*.
[6] The ordinary Sin. is *Badādā*.
[7] Clay image of planetary deity made and worshipped in time of sickness.
[8] Ar. *hummā*. This seems to be the common name for fever; yet the common Sinhalese word *una* is preserved in *Malé ons* 'Malé fever' (p. 95).

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
country	ral	—	? raṭa
sea shore	atiry	atiri	tīraya
island	guesiral [1]	rag	—
kingdom	ragué	rāje	rājya
river	core [2]	—	—
salt	lone	lonu	lunu
salt water	lonepene	—	lunu, pœn
fresh water	mirepene	—	miri pœn
scented water	pinipene	—	pini pœn
rain water	varepene	—	varusā, pœn
sand	vely	weli	veli
coast	earas [3]	kara	—
cape	capy [4]	—	—
trees	gats	gas [5]	gas
herbs	pila	—	pili
birds	donny	duni	—
fishes	masse	mas	mas
beasts	soupis	—	siupāwā
lion	singa	—	sinha
elephant	el	matang and eg	aliyā
camel	ol	ōg	otuwa
horse	asse	as	aswayā
ox or cow	guery	geri	geriyā
pig	oure	ūru	ūra
dog	nagoubalou	balu	ballā
eat	boulau	bulau	balalā
sheep (*m.* and *f.*)	bacary [6]	—	—
rat	mida	—	mīyā
civet	zabade boulau [7]	—	balalā
leopard	vagou	waguedurea	vaga
stag	poulla [8]	fula	—
hen	coueoulou	kukula	kukulā [9]

[1] Ar. *jazīrat* or *gazirat*.

[2] Comp. Sin. *Koralan*, name of a river fish, and *kūriyā*, a fish.

[3] Tamil *karei*; but for Christopher's equivaleut which has the first 'a' short, we might suppose it connected with Malay *kārang*, a 'coral reef.'

[4] Eur. Port. *cabo*.

[5] Chr. has *gas* = 'a tree.' If he be right, it would be interesting to know what the present nom. plu. is. *Gasa* was the old Sinhalese singular, found in Elu. See Childers' Notes on the Sinhalese Language, I.

[6] The Sinhalese is *bætaluwā*; but comp. *bakalaya*, a distorted animal. Ar. *bakara* 'cow.'

[7] Ar. *zabād* 'civet.'

[8] Perhaps from Sin. *pulli* 'spot,' 'mark.'

[9] *Kukulā* is 'cock,' *kikili* 'hen.'

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
cock	aule [1]	hau	—
crow	caule [2]	kalu	kalu
pigeon	cotarou	—	koṭoruwa [3]
parrot	gouray	—	girawā
heron	macana	—	kana koka [4]
coconut tree	roul	rū' [5]	—
,, fruit	caré [6]	karhi	—
,, timber	ory [7]	nirolu	—
,, leaves	pan	—	pana
,, flower	maoë	mau	mala
,, root	moul	godi *and* buḍu	mula
,, top	coury	—	—
coco-honey	acourou	hakuru	hakuru
bees-honey	ma mouy	ma mui	mākshika, madhu
sugar	ous-courou [8]	ussakuru	uk, hakuru
sugar-candy	lone acourou [9]	nauwasa, hakuru	lunu, hakuru
wine	ras	rā	rā [10]
pepper	mirou	mirus	miris
cinnamon	ponianboutory [11]	fonitori	—
nutmeg	tacoua [12]	takūwā	—
cloves	carampou [13]	kurunful	—
ginger	ingourou	ingguru	inguru
oranges	narigue	narengga	nārangeḍi
limes	lomboy [14]	—	—
pomegranates	anare [15]	aṇṇaru	—
dates	cadourou	kaduru	kaduru

[1] Comp. Tam. *sāval.*
[2] *i.e.* 'the black.'
[3] A kind of woodpecker.
[4] A small kind of heron known as the paddy bird—*Loxia orizivora.*
[5] Comp. Sin. *ruka*, 'a tree.'
[6] Cf. Greek, *κάρυ-ον.* Coconuts are called by Cosmas *κάρυα Ἰνδικά.*
[7] Comp. Sin. *oruwa* 'boat.'
[8] Dr. Campbell, of the 'Benares,' Trans. Bom. Geog. Soc. vol. i. p. 102, says the sugar got from the coconut is called *ghoor.*
[9] 'Salt sugar,' *i.e.* in the form of salt, crystallized; the Sinhalese is *gal-sīni*, i.e. 'rock sugar.'
[10] *Vin du pays* 'toddy.'
[11] Also written *poniembous thory.*
[12] Comp. Sin. *takul*, the nut of a hibiscus.
[13] Tamil, *karāmpu.*
[14] Ar. *laymūn.* Hind. *limbu.*
[15] Pers. *anār.*

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
gold	rhan	rang	ran
silver	rihy	rihi	ridi
tin	oudu timara[1]	timara	sudu (white)
lead	callothimara	timara	kalu
iron	dagande	dagaḍu	yakada
steel	miellany[2]	ekata	—
brass	taras[3]	rangwanlo	
bronze	loë	—	lōha
copper	ramvanlöi[4]	ratulo	ranwan, lōha
man (*m.*)	pyrienne	firihenung	pirimi
woman	anghaine	anghenung	gæni[5]
child	dary	daring	daru
my son	mapoutte	[6]	maye putā
my daughter	mandié	[7]	maye dūwa
my wife	ambye	abi	ambu
husband	piris	firimīha	pirimi
full brother or sister	heebande[8]	—	—
son-in-law	damy[9]	—	—
father-in-law	hours[10]	—	—
mother-in-law	housse	—	—
male relative	lien	—	—
female do.	pauery	—	—
father	bapa	baffa	bāpā
grandfather	eapaé	—	—
mother	amaé	amāe	ammā
grandmother	mamonia	—	—
daughter-in-law	lis	—	lēli
elder brother	bee	bēbe	bœ̄, bœ̄nā
elder sister	daïtas	daita	duhitā
younger brother	coé[11]	goiya	—
younger sister	coeas	—	—
parents	timans	—	de maw piyo

[1] Malay *tīmah*; Macassar *tumbera*.
[2] Malay *malēla*.
[3] Comp. *tarapilly* 'trumpets,' *v. infrà*, p. 201.
[4] 'The gold-like metal,' it will be seen that Chr. gives the same word for brass.
[5] Comp. Pali *anganī*, also used in Sinhalese literature.
[6] Christopher gives *daring-fulu* for 'son.'
[7] Chr. *angheng-daring* 'daughter.'
[8] Perhaps Sin. *ek, bandha*, joined.
[9] Pers. *damad* 'son-in-law.'
[10] Pers. *khusar*.
[11] Comp. Sin. *kollā*.

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
cousins german	de bee dedary [1]	—	debœnā, dedaru
companions	demitourou	rahu maiteri	de, mituru
friends	macelats	—	—
enemies	rouly	— [2]	—
my master	manica	—	—
schoolmaster	aydru	wastadu	—
mistress	maniqué [3]	—	—
king	rascan	rasge	rājan
queen	renequilague	—	rājinī
prince	callans [4]	—	—
princess	camenas	—	—
lord	saibou [5]	saibeng	—
lady	saibas [6]	—	—
gentleman	tacourou	—	—
damsel	bibis [7]	—	—
well-born man	calogue [8]	—	—
,, woman	camulogue	—	—
low-born man	callo	—	—
,, woman	camulo	—	—
captain	sardare [9]	—	—
soldiers	engou [10]	hanggube	—
warrior	engouran	—	—
arms	sillia	—	sili
cannon	badi [11]	baḍi	weḍi
powder	badi baise	baḍi bēs	weḍi bēt
musket	caytte [12]	kāetiwa'	—
ball	onda	uḍḍa	unde
lance	lancia [13]	longsi	lanshaya
sword	candye	kaḍi	kaḍuwa

[1] Literally 'the two children of two (elder) brothers,' or brothers' children. This is a good example of the old dual (see the preceding Sin. word *demawpiyo* 'parents,' and the succeeding Maldive word *demitourou*) remaining in use as a plural; *de bœ de daru* is not used in Sinhalese.

[2] Chr. gives *adungweka*, *adawatu* (Ar.) and *hasadā* (Ar.), enmity.

[3] Comp. Sin. *menike*, a name of a woman of rank.

[4] Or as elsewhere *calans*. Comp. Pers. *kalan* 'great.'

[5] Ar. Hind. Pers. *sahib*.

[6] Ar. Pers. *sahiba*.

[7] Pers. *bibi* 'lady.'

[8] Chr. translates *kalung* as 'people,' used respectfully.

[9] Pers. *sardar*.

[10] Comp. Sin. *chatur-anga* 'an army.'

[11] Malaya and Jav. *bādil*, and *badel*.

[12] Comp. Malay *kayit*, 'a crook.'

[13] Port. *lança*.

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
shield	addande	aṇḍana	—
dagger	ereis [1]	—	—
knife	piohy	fiyohi	pihiya
javelin	ziconty	—	—
a person	miou	mīhung	minihā
head	bolle [2]	bō	—
hair	ystarin	istari	isa (head)
ears	eampat	kangfai	kana
eyebrows	bouman	buma	bœma
eyes	lols [3]	lō	—
nose	nepat	nēfai	nahaya
mustaches	narauallé [4]	matimas	nara, wāla
beard	tombouly	tubuli	—
lips	tombou	tungfai	tol
mouth	anga	aga	anga (limb)
teeth	dat	dai	dat
tongue	douls	du	diva
cheeks	cos		—
neck	gandouras	kadurā	kantha
shoulders	eondou	koḍu	
arms	at	ai	at
right arm	eanat [5]	kanai	kana, ata
left arm	vaat	wai	vama, ata
the side	quibat	—	—
fingers	inguily	igili	anguli
nails	niapaty	niafati	niyapotta
skin	ans	hang	hama, han [6]
nerves	nare	naru	nahara
blood	lets	lē	lē
chest	oura	uramati	ura
navel	poulou	fulu	
abdomen	bande	badu	baḍa
knees	eacoulou	kaku	kakulu
buttocks	boudou	fū [7]	—
feet	paé	fiyolu	paya
heart	il	hing	—
liver	mee	mē	ak-māwa

[1] Malay *kres*. Pyrard says these come 'from Achen in Sumatra, from Java and China.'
[2] Comp. Sin. *mole* 'brains.'
[3] Chr. gives 'eyelids' = *espiya*, which preserves the Sin. *lit.* 'eye-feathers.'
[4] *i.e.* 'manly hair.'
[5] 'The eating hand.'
[6] *hama* becomes *han* in compounds.
[7] Comp. Sin. *puka*.

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
cloth	sacalas	—	—
linen	pellé	—[1]	pili
white	houde	hudu	hudu
black	callo	kalu	kalu
yellow	rindou	rindu	—
red	rat	rai	rat
blue	bes	nu	nil
silk	farouy[2]	farui	—
thread	ouy	ui	—
cotton	capa	cafa	kapa
wool	cambali	keheri	kāmpala
hemp	quitan[3]	—	—
velvet	velouzy[4]	—	—
satin	sopy	—	—
petticoat	engué	—	—
turban	caqué	faguḍi	—
slippers	paeuane	fāewang	paya (foot)
hat	topye	tākihā	toppiya
cloak	caban	—	kabāya[5] (Port.)
shoes	samboc	—	—
one	hec	—	eka
two	dec	—	deka
three	tinet	—	tuna
four	ataret	—	hatara
five	pahet	fas	paha
six	ahet	—	haya
seven	atec	hang, hai, *and* hataka	hata
eight	aret	—	aṭa
nine	nouahet	—	nawaya
ten	diahet	diha	daha
eleven	ecolohet	—	ekolaha
twelve	dolohet[6]	dolos	dolaha

[1] Chr. gives *feli* 'cotton cloth.'
[2] Ar. *harir.*
[3] Comp. Ar. *kattan.*
[4] Port. *viloudda.*
[5] Derived from Ar. *abā.*
[6] After this number Pyrard has the following: "Note that they have the numbers up to twelve (as we have them up to ten): then they go on by twelves, and their hundred is 96, or eight times 12." It will be seen by the numbers which follow that those only which are correct according to Sinhalese enumeration are compounds of *dolos*, viz. *tin dolos*, *passedolos*, and *addolos*. They are simply, 'three dozen,' 'five dozen,' and 'seven dozen.' On the other hand, those which are not compounds of *dolos* are altered values of the ordinary Sinhalese

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
twenty-four	passee	—	vissa (20)
thirty-six	tindolos	—	tun, dolos
forty-eight	panas	—	panas (50)
sixty	passedolos	—	pas, dolos
seventy-two	(omitted)	—	—
eighty-four	addolos	—	hata, dolos
ninety-six	ya [1]	—	siya (100)
thousand, or 10 times 96	assa	—	dāha, dāsa (1000)
million, or [2] 10 times 1000	lacqua	lanka	lakshaya
house	gué	gē	gē
temple	mesquite [3]	miski	—
kitchen	vadique	—	wādiya
door	dore	doru	dora
house-fence	gouety	—	ge, væta
wall	paore	fauru	pahura
guest	nasile [4]	—	—
precious stones	es [5]	—	æs
diamond	alimas [6]	—	—
ruby	yacouth [7]	—	—
emerald	akika [8]	—	—

decimal numbers. Yet it is strange that Pyrard could make mistakes with numbers so low as twenty-four and forty-eight, which by analogy ought to be *dedolos* and *hārodolos*. From the letter given by Christopher, and from the Sultan's title (v.i.), it seems that the Maldivans count much by dozens; indeed, Christopher (Trans. Bom. Geog. Soc. vol. i. p. 54, etc.) says, "they reckon by dozens as we do by tens;" but they have not abandoned altogether the decimal system. If, however, *passee* and *panas* really stand for twenty-four and forty-eight, it will be interesting to know the Maldive for twenty and fifty. Christopher (Maldive letter in J.R.A.S. Vol. VI.) has *sālis*, forty = Sin. *hatalis*. *Salis* is, I believe, also used in Elu.

[1] Ibn Batuta (Paris ed. vol. iv. p. 121) has *syāh* 100, *fāl* 700, *cotta* 12,000, and *bostou* 100,000. He uses these numbers in speaking of packages of cowries.

[2] *Milion ou dix fois mil.* Perhaps he means that the Maldive *lacqua* corresponds to *milion*, as a vast and not very definite number.

[3] Ar. *masjid*, Pers. *maski*. The use of the more Persian form tends to confirm the Maldive tradition, according to which the islanders were converted to Muhammadanism by Persians from Tabriz (see Trans. Bom. Geog. Soc. vol. i. p. 74).

[4] Ar. *nazel*.

[5] Sin. *æs* = eyes.

[6] Comp. *alipan*, 'fire'; *alima* = 'that has light.'

[7] Ar. *yakūt*.

[8] Ar. *akika*, 'blood-stone.'

English.	Maldive.		Sinhalese.
	Pyrard.	Christopher.	
turquoise	persi [1]	—	—
pearls	moul	mu'i	mutta
earrings	moudi	—	mudu (ring)
bracelets	oula	—	walalla
necklace	guilli	—	—
chain	partare	—	—
ambergris	gomman	goma	—
musk	castury	—	kasturi
civet	zabade [2]	zabādu	—
storax	comozane	—	—
sulphur	cassadoine	kasanduwani	kasā
quicksilver	raha	raha	rahadiya
alum	sabou [3]	—	—
copperas	tutia [4]	—	tutya
compass	samca [5]	samugā	—
loadstone	niamirgau	—	nœwa (mir Ar.) gala
pilot	niamir	niyameng	nœwa (mir. Ar.)
mariner	calassir [6]	—	—
chart	mouraban	muruba	—
cross-bow for taking the stars	pilagaha	—	? pila, gaha
ship	ody	oḍi	—
galley	gourrabe [7]		—
anchor	naguilly [8]	nagili	nā, nœwa (ship)

[1] 'The Persian stone,' as we call it the Turkish.
[2] Ar. *zabād*, from which 'civet' is derived.
[3] Ar. *shabbe*.
[4] Ar. *tutiya*.
[5] Tamil *samukkā*, Sans. *chumbaka* 'loadstone.'
[6] Malay *xalasi*.
[7] Ar. *ghurāb*.
[8] 'Ship chain,' *nawa* and *guilly* (v.s.).

II. Maldive Words and Expressions used in the course of Pyrard's Narrative.

(i.) The Atolls.

Atollons (p. 107), Atolls, the Maldive name, Chr. *atoḷu*.

The thirteen Atolls[1] in order from the North are:

1. *Tilla dou matis*[2] (p. 111), the northernmost Atoll, called by the Portuguese "Cabexa des las ilhas," the Maldive name having the same signification.
2. *Mille doue madoue.*
3. *Padypolo.*
4. *Malosmadou.*
5. *Ariatollon.* Comp. the *Ari* islands.
6. *Malé atollon,* the Atoll containing *Malé,* the royal island.
7. *Poulisdous,* now *Phālidu.*
8. *Molucque.* Comp. *Molucca.*
9. *Nillandous.*
10. *Collomadous,* now *Collomandu.*
11. *Adoumatis.*
12. *Souadou.* Also called *Ouadou.*
13. *Addou* and *Poua Molucque.* Two Atolls, but counted politically as one, and generally called *Addou.*[3]

(ii.) Islands.[4]

Pouladou (p. 60), at the N. of the atoll Phālidu.

[1] This division into thirteen Atolls is political rather than physical: thus *Tilla dou matis* includes what is really the northernmost atoll, *Heawandu Pholo,* and does not include *Mille doue madoue,* though both form one long straggling atoll intersected by no deep soundings. Malcolm Atoll (so called by the English surveyors) is taken to belong to *Mille doue Madoue*: Horsburgh Atoll to *Malosmadoü*. *Malé* has three atolls; *Ari* and *Addou* each two. Ibn Batuta gives the following as the names of some of the provinces: 1. Pālipur, 2. Cannalous, 3. Mahal, 'which gives its name to all the islands,' 4. Telādīb, 5. Caraïdou, 6. Teïm, 7. Télédommèty, 8. Hélédommety, 9. Bereïdou, 10. Candacal, 11. Moloûc, 12. Souweïd. These do not seem to be given in any order, but *Mahal* (Malé), *Caraidou* (Cardiva, the island N. of Malé atoll which gives its name to the Channel), *Télédommèty* (Tilladumati), *Moloue* (Moluk) and *Souweïd* (Suadiva) are easily recognizable. The Maldives generally are called *Dhibât Al Mahal* by Ibn Batuta [see Ibn Batoutah by Defrémery and Sanguinetti. Paris, 1858, vol. iv.]. The Maldivans at the present day write *Mahaldîb* [J.A.S. Beng. vol. v. plate 49, at p. 794].

[2] The word 'dou,' 'dous,' or 'doue,' which occurs so often in the following names, = island, 'dues' or 'diuar' = islanders. Sans. *dwīpa*, Sin. *duwa*.

[3] These atolls with Suadiva were sometimes considered as a sub-kingdom, apart from the other atolls. The dethroned king who lived at Cochin entitled himself 'King of the Maldive Islands and of the three atolls of Cuaydu' (see pp. 199, 200).

[4] The number of the islands has been variously stated. The Maldive king claimed to rule 12,000 isles: the two Muhammadans of the 9th century give the number 1900; Ibn Batuta says 'about 2000': while Juan de Barros derives the

Pandio or *Paindoué* (p. 71), probably *Fainu*, the chief island of the northern division of Malosmadou (see Adm. Chart, 1866).

Touladou (p. 83), small island ten leagues from *Pandio*.

Maconnodou (p. 86), small island belonging to the High Admiral, between *Pandio* and *Malé*.

Bandos (p. 97), near *Malé*.

Misdoue (p. 263), in the Atoll *Nillandous*.

Gouradou (p. 268), ten leagues N. of *Malé*.

Game (p. 261), in the Atoll *Souadou*; a fortress was built here against the Portuguese. Cf. Sin. *gama* 'a village.'

Maspillaspoury (p. 291), an island belonging to the Queen, forty leagues N. of *Malé*; cf. Sin. *Pulas-ti-pura*, the correct name of the ruined city known as *Pollonaruwa*.

Pollouoys (p. 316), an island 120 leagues S. of the Maldives, known only traditionally. The story goes that some Maldive sailors once landed there, but were obliged to leave it, owing to the devils who visibly tormented them. The king sent several times to rediscover it, the expeditionary force being assisted by the presence of a number of magicians, who were to sign a treaty with the devils for colonization, but it was not sighted again, owing to the difficulty of sailing due south against monsoon and current. One of the Peros Banhos group of the Chagos Archipelago, situate lat. 5° 20′ S., is named *Poule* in the charts. The most southern Maldive Atoll (*Addou*) is in lat. 0° 40′ S.

Caridou (p. 116), an island which gives its name to the chief passage of the Atolls between Ariatollon and the Malé Atoll. By later geographers spelt *Cardiva*. One of the islands at the N. of Ceylon is also called *Karativu* (named Amsterdam by the Dutch).

Itadou (p. 318), an island of the Atoll Adoumatie.

Outisme (p. 345), the northernmost isle. (Sin. *antima*, Sans. *uttama*.)

name from *Mal*, the Malabar (?) for 1000, and *diva*, islands. Capt. Owen believed the total number was three or four times 12,000 (J.R.G.S. vol. ii. p. 84). It would be a difficult and unnecessary labour to attempt to count them even with our complete surveys. The Admiralty charts, however, corrected up to 1866, enable us to fix the total number of inhabited islands, spread over the atolls as shown in the table below. There is no means of ascertaining the total population: it has been estimated at 150,000 to 200,000 (Charton, vol. iv. p. 255); but 20,000 would, I imagine, be nearer the mark. That of Malé, as I am informed by a sailor, who was shipwrecked there last year, on the authority of the present Sultan's brother, is 2000. Lieut. Powell found 760 people in the seven inhabited islands of Heawandu atoll (J.A.S. Beng. vol. iv. p. 319).

Atoll	Inhabited Islands	Atoll	Inhabited Islands
1 Tilladumati	17	8 Molúk	8
2 Milladumadu	32	9 Nillandu	13
3 Paddipholo	2	10 Collomandu	11
4 Malosmadu	30	11 Adumati	12
5 Ari	13	12 Suadiva	17
6 Malé	8	13 Addu	7
7 Phalidu	5		
		Total	175

Malieut (p. 345), a small island thirty-five leagues N. of the Maldives, inhabited by people of Maldive race and language; it was formerly under the Maldive *raj*, but was given to a relative by a former king. At the time of Pyrard's escape it was under the protection of the King of Cannanore.

Diuandurou (p. 346), islands thirty leagues N. of Malicut (part of the Laccadive group), also under the Raja of Cannanore, now called Underou.

(iii.) Names and Titles.

Ybrahim Pouladou quilague (p. 61), Ibrahim governor of Pouladou. Chr. says the title *kelege* can be bought for 350 rupees.

Assant caounas calogue (p. 78), title of an officer sent to Pyrard by the king. *Assant* is probably Hassan.

Oussaint Ranamandi calogue (p. 78), another officer. *Oussaint* is probably Hussein.

Misdoué quilague (p. 263), lord of Misdoue.

Quilague (p. 230), regent elect for the kingdom, to act in absence of the Sultan. Cf. *renequilague*. Ibn. Bat. *ealaky* 'grand vizier.'[1]

Manaye Quilague (p. 267), queen (cf. Sin. *menika*).

Pammedery ealogue (p. 267), name of a great lord. Christopher says the fourth vizier is called *Pamederi*. Ibn Bat. *Fāmeldāry* 'treasurer.'

Ranabandery tacourou (p. 62), title of a brother of the chief queen, meaning 'lord of the treasury.'[2] *Tacourou* is a shortened form of *atacourou*. The pilot used by the ship 'Recovery' in 1682, at the island Mapara, was called *Husan Takra*, Journ. Geog. Soc. vol. ii. p. 76.

Rans bandery (p. 231), the treasury. Ibn Bat. *bender*. Comp. Sinhalese *bandhāra* 'treasury.' *Rana* and *rans* probably = gold, Sin. *ran*.

Mas bandery (p. 231), Chancellor of the Exchequer. *Mas* perhaps = *maha* 'great.'

Ali Pandio Atacourou (p. 71), Ali, governor of Pandio.

Bode ta Courou (p. 262), title of Mahomet, elder of two brothers who reigned just before Pyrard's time; it means "great lord." In the Maldive letter given by Christopher the Governor of Ceylon is called *boḍa sahibeng*.[3]

Parenae tacourou (p. 268), "name of a great lord," but apparently a mere title of the minister next in rank to the quilague.

Darade Tacourou (p. 285), high title "corresponding to count or duke." Chr. calls the sixth vizier *Dahara*. Ibn Bat. *deherd* = 'commander-in-chief.'

[1] All the words quoted from Ibn. Bat. will be found in the Paris ed. 1858, vol. iv.

[2] At p. 344 his title is spelt *Rana banduy Tacourou*: *banduy* perhaps = Sin. *banda*. Christopher found the treasurer called 'Hindeggeree.'

[3] J.R.A.S. Vol. VI.

Tacourou (p. 234), honorific added to names of nobles, whose wives take the title *Bybis* (see Vocabulary).

Callogues (p. 234), honorific added to names of those in office who are not nobles by birth. Their wives and daughters take the title *Camulogues*.

Mahomet, *Haly*, *Hussum*, *Assan*, *Ibrahim* (p. 234), are common names of men.

Ibraim callane (p. 287), name of the king's nephew.

Caparou (p. 274), name given to infidels by Mussulmans; Ar. *Kāfir*.

Pouraddè (p. 95), Chr. *furadi miha* (*furadi*=voyage), a foreigner.

Malè dives or *divar* (p. 95), the Maldivans' name for themselves.

Parenas (p. 230), minister, next in rank after quilague.

Endequery (p. 230), a lord privy councillor, always in attendance upon the king. Chr. has *Hindeggere* 'treasurer,' Ibn Bat. *Hendidjéry* 'predicateur.'

Velannas (p. 231), First Lord of Admiralty and President of Board of Trade in one, has charge of all shipping; also (p. 104) called *maè dau da elle*. Chr. calls him the *wilono shadander*.

Mir vaires (p. 231), subordinates of the *Velannas*, two in number; they take count of all vessels sailing outward and inward; also (p. 104) officers of the king. Acc. to Chr. only one such officer now, called *Emir-el-Bahr*.

Dorimenaz (p. 231), or *Torimesnas* (p. 289). Cf. Tam. *turei*, commander-in-chief of the army. Now *Durimind*, acc. to Christopher, who calls this official the first vizier.

Acouraz (p. 231), deputy of *dorimenaz*, spelt by Chr. *Hakura*, and said to be the second vizier.

Manpas (p. 231), chancellor, keeper of the king's privy seal, which consists of the king's name graven in Arabic characters on silver; when used it is dipped in ink and impressed on paper, the Maldivans had no wax. Called by Chr. *mafae* or fifth vizier. Ibn Bat. *mâfâcālou* 'receiver general.'

Carans (p. 231), the king's secretary.

Esdru (p. 283), chief of the royal artillery.

Mouscoulits (p. 79). Chr. has *muskulia*. Chief men of islands who assist the king in hearing appeals from the Pandiare's court.

Sultan Ibrahim dolos assa ral tera atholon (p. 108), 'Ibrahim Sultan, king of thirteen provinces and 12,000 islands.' He has elsewhere given the meanings of all these words except *tera*, 'thirteen,' a compound of some numeral three (*cf.* Pāli *talisan* =13), 'dolos assa ral'=12,000 lands. Chr. says, "After the Sultan's name all communications in writing have the following expressions, I suppose denoting the dignity and importance of the monarch, but unexplainable at the present day—*Kulasung dura kattiri bowana mahā radung*." The last two words, I apprehend, are *maha raja*. The Portuguese editor of Pyrard has this note, "The Christian king of these islands who lived at Cochin (being dethroned) was entitled thus: 'Dom Manoel por graça de Deos rei das ilhas de

Maldiva e de tres Patanas de Cuaydu e de sete ilhas de Pullobay, da conquista e navigação de toda a costa brava de Sumatra e do Estreito de Manacuma, etc.'—Documento de 1560." *Patana* is another word for Atoll according to this editor.[1]

Rascan et *Sultan* (p. 257), "*Rascan* is the ordinary term for the king, but Sultan is used as his signature after Mohammedan usage."

Moucouris (p. 221), 'Docteurs et savants' without office, except that they assist the Pandiar in deciding appeals from the Naybe's court. Ar. *Mukarri*, a teacher.

Varuery (p. 222), "Collectors (one in each Atoll) of the revenues and dues, not only of the Maldive king, but also of the Christian king who is at Goa. These officers are much respected and honoured." This shows that the Portuguese exercised a certain sovereignty over the islands.

Mouscouly auare (p. 222), "elder of a parish." Each island was divided into parishes: Malé had five.

Moucois (p. 336), *Mukwas*, race of Malabar pirates, who manned the fleet of the "king of Bengal," who conquered the Maldives and took Pyrard off.

Rauery (p. 401), coconut gatherers (probably from *rā* 'toddy')

Cisdy (p. 196), a cook; also a term of reproach used to a man.

Allo (p. 224), Chr. *alū*, the lowest class of slaves. Sin. *vālā* 'a slave.'

(iv.) Religion.

Pandiare, chief priest of the Maldives, as well as chief justice.

Catibe (p. 142), chief priest of an island. Ar. *katīb* 'scribe.'

Moudin (p. 142), incumbent of a mosque. Ar. *mueddin*.

Quiauany (p. 179), other priests attached to each mosque.

Deuanits (p. 158), petty officers of mosques. Sin. *dewiya* 'God.'

Sallam alecon (p. 79), or *salan à lescon* (p. 150), the ordinary greet- of all Muhammadans, 'Peace be on you.'

Oucourou mesquite (p. 141), the Friday mosque; a principal mosque large enough to contain all the men of an island on Fridays and holy days.

Couroan (p. 146), the Korān. Chr. *guruwang*.

Saluat (p. 146), evening prayer (*salut*), not part of the regular office. Ar. *salah*.

Pastia (p. 146), a prayer used at home.

Namandé (p. 143), Chr. *namādu*, prayers and ceremonies used in private; cf. Sin. *namanawā*.

Seunat (p. 144), circumcision. Chr. has the verb *gebaindang*, to circumcise. Ar. *sunnah*='the duty.'

Dida (p. 145), "a piece of white silk cut to a point, like a little flag," used in ceremonies.

[1] Viagem de F. Pyrard, vol. i. p. 86.

Coly (p. 146), a bell rung by the mueddin as a call to prayer; it is struck with a wooden hammer.

Tarapilly (p. 147), Chr. gives *dumarhi*, cf. Malayal. *tara*, and Tamil *tarei*, straight trumpets used as a summons to prayer.

Alas alas aquebar (p. 148), 'Allah Allah Akbar,' God, God is great.

Aly alas Mahomedin (p. 166), cries during the chanting and furious dancing at the mosques.

Rodet (p. 151), Ramadān.

Rodet pillauay (p. 154), feast to celebrate the close of Ramadan.

Pitourou (p. 156), offering given to the Pandiare at Malé or to the Naybe in the other Atolls, consisting of half a larin per head, at the annual census which takes place at the close of Ramadan. This is a poll-tax levied on the whole population, including women and children.

Ydu (p. 158), feast of the new moon following the close of Ramadan, Id-al-fetr (see Sale's Koran, Prel. Disc. vii.). Ar. *īd* 'feast' in general.

Mas Ydu (p. 161), feast of the same moon when full.

Poycacan (p. 161), "full moon" feast of April or May. "It is more a rejoicing than a religious festival." "They say that at this moon rice was first brought to the islands, and on that account they have ever kept up this festival, which lasts three days." This may be the remains of the Buddhist festival of the full moon of Wesak (May), on which day Buddha attained Nirvana (Sin. *pōya*.)

Candis cacan (p. 163), a feast in August or September, when the king makes a vast quantity of *kanji* (rice gruel) mixed with jaggery and coco-milk, which is carried about in small vessels and partaken of by all. (Sin. *kœnda*=kanji, and *kanawā*, *kakā* 'to eat.')

Maulade (p. 163). "Festival of Muhammad's death-night in October." Either the Maldivans or Pyrard must be in error. Muhammad died at noon on the twelfth or eleventh day of the third month of the eleventh year of the Hejra (8th June, A.D. 608). See Deutsch, Lit. Rem. p. 118. Ar. *maulad*=birthday.

Zicourou (p. 166). Chanted hymns: "ils disent que ce sont les Psalmes de David." Nor is this impossible. Mungo Park, attending a Muhammadan examination for degree at Kamaha in Central Africa, found the young negroes well versed in the Pentateuch, the Psalms of David, and other parts of the Old Testament.—*Travels*, ch. xi. It may be (but it is unlikely) that the Psalms were brought to the Maldives by the Jews before the Muhammadan conversion. The "two Muhammadans" of the ninth century say there were a large number of Jews in Ceylon. If in Ceylon, probably also in the Maldives. (Cf. Ar. *zikr*.)

Calbalolan (p. 176), burial. (Chr. *walulang*.) Sin. *walalanawā*.

Capon (p. 177), a store of money laid up in each family against funerals.

Chaydes (p. 181), souls in a state of bliss. Ar. *shahīd* 'martyrs.'

Agy (p. 186), those who have made the pilgrimage to Meeca, Hadji. (Ar. *haj.*)

Voulos (p. 197). Ablutions before entering mosque. (Ar. *wuzu* or *wodū.*) See Sale's Koran, Prel. Dise. iv.

Innan (p. 198). Bathing the entire body. Perhaps corruption of Ar. *hammām*; but Sale says this is called 'ghost.'

Caueny (p. 169), Chr. *kaweni*, 'marriage.'

Rans (p. 169), dowry (*rhan*=gold).

Varicor (p. 172), divoree.

Medupiry (p. 174), middlemen (Sin. *mæda, pirimi*) who eommit a feigned adultery in order that a woman, already twiee divoreed, may remarry her old husband. See Sale's Koran, Prel. Dise. vi. 95, and Sura ii. Muhammad's law was, that if a man divoreed his wife thriee, he could not take her again, unless she had been in the interval married and divoreed by another.

Siare (p. 199). "A spot dedieated to the king of the winds in a seeluded eorner of each island, where those who have eseaped from danger (at sea), eome to make offering daily of little boats and ships fashioned on purpose, and filled with perfumes, gums, flowers, and odoriferous woods. They set the perfumes on fire, and east into the sea the little boats, whieh float till they are burned; and this, say they, in order that the king of the winds may aeeept them."[1] We have here the remains of pre-Buddhistie worship of the elements, whieh grew into a propitiation of a god or devil, at whose hands they feared harm. This worship seems to have survived Buddhism, and to have lived with Islam, just as the dewale-worship lived with Buddhism in Ceylon, or as the mysterious grove-worship existed along with Hebrew monotheism. I may add here another passage from Pyrard eoneerning the same eult: "Also when they find difficulty in launehing their ships and galleys, they kill some eoeks and hens, and throw them into the sea in front of the ship or boat." A eoek is a favourite offering to the Ceylon devils. The eustom of saerifieing a model ship at a launeh is still preserved.—Trans. Bom. Geog. Soe. vol. i. p. 302.[2]

[1] See Ibn Batuta's account of the Muhammadan conversion, *suprà*, p. 180, note.

[2] Practices similar to those mentioned here and below (s.v. *Cauery*) are still preserved among the Malays in cases of dangerous sickness. In order to remove the evil spirits, they construct a miniature prahu, or war boat, of wood, complete in every way, with mast, rigging, black flag, paddles, and rudder. The boat is filled with various articles, a bag of rice at the stern, and a lamp made out of a cockle-shell at the prow; the body of the boat is stuffed with cups made of leaves, containing liquors of various sorts, entrails of fowls, sweetmeats of all kinds, tobacco, flowers, and copper coins. The boat is supported by a slender square bamboo platform, surrounded with pendent grass, to the ends of which are tied all sorts of eatables, and at the corners the legs and wings of a chicken. About eighteen inches below the boat are figures of turtles, crocodiles, and lizards, made of rice, resting on a plantain leaf; the whole being supported by four straight branches about seven feet high (the top leaves forming a canopy) stuck into a raft made of

Tauide, (p. 200). "They lay great store by certain charms called 'Tauide,' which they carry under their dress inclosed in little boxes which the rich get made of gold or silver. They carry them sometimes on their arms, at the neck or the waist, or even at the feet, according to the subject of distress; for they serve all purposes, offensive and defensive, for loving or for winning love, for raising hatred, for cursing or bringing on sickness." Chr. has *tawīdu*. Ar. *ta'wiz* 'amulet.'

Cauery (p. 201), "They believe that evil is caused by the devil troubling them, and that he is the sole author of death and sickness. They invoke him accordingly, offering flowers and preparing a banquet of all sorts of meats and drinks, which they place in a secret spot and leave to be wasted, unless perchance some of the poor come and take them. With the same design, they kill some cocks and hens, turning towards the sepulchre of Mahomet, and then and there lay them down and leave them, praying the devil to accept the offerings and to take himself off and leave the patient at ease. This sorcery they call *cauery*." (Sans. *kawi* 'incantation'.) Compare *Quenuery* (p. 290), also sorceries.

(v.) Maritime Terms.

Panguaye (p. 57), raft of osiers; perhaps Sin. *pan* 'bulrushes,' and *gē* 'house.'

Candouepatis (p. 75), raft made of candou wood, *vide infrà* Botanical Terms.

Donny (p. 99), a boat, "called bird because it is quick of sailing." In the Vocabulary, Part I., it will be seen the same word is given for 'bird'; but this is clearly the same as the Tamil *thoni*, Sans. *drona*. Chr. has *dōni*.

Paimones (p. 109), sharks (Chr. *femunu* or *miyaru*); "grands poissons qui devorent les hommes et rompent les bras et les jambes." He says these are larger than another kind also found at the Maldives, called by the Portuguese *tuberones* (tuberão). The latter are probably the *miyaru* of Chr.

Aquiry (p. 110), (Chr. *hiri*), madrepore, a compound of *giri* 'rock,' as in Nilgiri, South India, and often in Ceylon. The distinctive part of the compound is now lost, and *g* is softened to *h*.

Cacouué (p. 110), (Chr. *kakuni*), a kind of large crab. Sin. *kakuluwā*.

Oyuarou (p. 114), sea currents, running now east, now west. Sin. *oya* 'river'; this plural *oyawaru* is found in Elu, before the

plantain trees. Slips of bamboo are stuck round the raft, with partially-burned red rags tied to them. The raft is set afloat, and it is supposed that the evil spirits, enticed away by the food in the boat, leave the patient and attach themselves to the boat. (See "Medical History of the Laroot Field Force," by Surgeon-Major Davie, in Appendix to the Army Medical Department Report, 1876.)

plural suffix *val* became prevalent for inanimates. See Prof. Childers in J.R.A.S. Vol. VII. N.S. p. 35.

Candou (p. 116), canals or straits which divide the Atolls.

Cobolly masse (p. 210), or *combolly masse* (p. 214). Ibn Batuta calls it *koulb almâs*.[1] A black fish caught in great shoals, cooked in sea-water, and preserved. The words mean 'black fish'; *masse*=Sin. *massan*.

Phare masse (p. 214), a fish caught in the shallows of the Atolls. "Car *phare* c'est à dire un basse ou un banc et roche." Tam. *par*.

Gomen (p. 247), another spelling of *gomman* 'ambergris.'

Meuuarè (p. 247), prepared ambergris.

Tauarcarrè (p. 248), *coco de mer*, "called by the Portuguese *cocos des Maldives*." It grows not at the Maldives but at the Seychelles.

Bolly (p. 251), or *bollis* (p. 262), Chr. *boli*, 'cowries.' Ibn Batuta calls them *wada*, and the two Muhammadans of the ninth century *kaptaje*. "In these is the greatest Maldive trade; and chiefly with Bengal, where cowries are used as the common money." In the Maldives 12,000 cowries valued 1 larin. In trading with the Bengal merchants, 20 measures (coquetees, ? a Norman measure)=12,000 cowries, which formed the usual parcel. (Comp. Sin. *bellā*.)

Cambe (p. 252), tortoise-shell. The trade in this article was chiefly with Cambay. A *gaut* ($\frac{1}{4}$lb.) was worth a larin. Comp. Sin. *kesmbāwa*.

Behigue (p. 269), a term applied to sailing with the current. Comp. Sin. *bahinawa* 'to descend.'

Ogate gourabe, the royal galley. "*Gourabe* veut dire galere, et *ogate* royale."

(vi.) Judicial Terms.

Pandiare (p. 220 *et pass.*), chief minister of justice, as well as of religion, also called *cady* (Ar.), lives at Malé, but goes on circuit and hears appeals from the Naybes' courts. Chr. has *fandiarhée*.

Naybe (p. 219), governor of an Atoll, and the only judge therein; holds assizes in the islands of their Atolls four times a year. Chr. says the chiefs of Atolls are called *attol-wari*. Ibn Bat. gives *eordouery* and *cordouiy*.[2] Ar. *naïb* 'a lieutenant.'

Sacouest (p. 223), justice.

Deuanits (p. 223), process servers, and (p. 227) executioners; also petty officials at mosques. (See under Religion.)

Pemousseré (p. 225), 'bondsmen on loan,' debtors who have to serve their creditor till they pay. They are generally well treated

[1] Ibn Batoutah, by Defrémery and Sanguinetti, vol. iv. p. 112.
[2] Paris ed. 1858, vol. iv. p. 120.

and fed; if not, they are entitled to their freedom. "Many a poor man voluntarily enters the service of some great lord as a *pemousseré* to gain his protection and favour." Chr. says that the men of Malé having to pay no taxes are very lazy, and "become dependents of any of the chiefs, most of whom retain as many followers as they may be able to support, a large retinue being a sign of rank and power." Compare with this custom the growth of the feudal system in the West.

Rotan (p. 228), Chr. *rattan*; used for corporal punishment, "brought from Bengal."

Pouytallan (p. 324), a crime committed by women.

Gleau (p. 327), leathern thongs used for corporal punishment.

Odican anpou (p. 91), crime.

(vii.) Botanical Terms.

Pasme (p. 195), pepper (also *mirou*, v.s.).

Cahoa (p. 195), a grain which with *pasme*, coco-milk, and water, makes a favourite warm drink of the Maldivans.

Arequa (p. 253), areca, "for eating with betel," had to be imported; also *poua* (p. 320). Sin. *puwa*.

Onny (p. 385), the areca-tree.

Moranque gasts (p. 391), the mora-tree (Sin. *mora gas*).

Congnare (p. 391), a tree, "leaves round, with little pricks; fruit like little plums, and of a delicious taste."

Papos (p. 391), the *papayi* (Sin.), Chr. *falo*.

Ambou (p. 392), the *jambu* tree. The mango (Sin. *amba*) does not grow at the Maldives.

Macarequeau (pp. 205 and 392). A large wide-spreading tree, "whose roots are above ground;" they are long, round, and smooth, and form as it were arcades. When they want some of the wood they cut some of the roots, leaving enough for the tree to stand on. It then throws out others. The flower is a foot long, white, and folded, and with an excellent perfume. The fruit is as big as a large gourd, round, and with a hard outer skin. It is divided by partitions which go to the heart, as in a pine-apple. It is of a very red colour; the bulk of the fruit is not eaten: it is full of kernels inside, which are extremely tasty. The leaves are an ell and a half long, and a span broad. They divide them into two leaves and write on these with ink as on parchment.

Innapa (p. 394), a flowering tree, odoriferous; used by the Maldivans for rubbing their hands and feet, and making them red.

Innamaus (p. 394), the flower of the foregoing.

Onnimaus (p. 394), a flower, white and perfumed. "It remains on the tree only twenty-four hours, and then falls."

Iroudemaus (p. 394), "en leur langue, fleur de Soleil;" the sun-flower (Sin. *iru* 'sun,' *mala* 'flower': but the word in use is *Sūriya-kāntā*).

Oura (p. 127), millet.

Bimby (p. 127), "a small grain like millet, but black like rapeseed."

Itelpoul (p. 127), "an edible root which grows in abundance, round and large as the two fists." Cf. Sin. *puhul* 'pumpkin.'

Alas (p. 127), another edible root, of two kinds, "the one red like beetroot, the other white like turnip," i.e. *yams* (Sin. *ala*).

Godam (p. 127), Chr. *godang*, wheat, "not grown but imported." Sans. *godhuma*. Tam. *kothumei*.

Andue (p. 128), Chr. *hadu*, rice, "not grown but imported from the continent."

Quella (p. 128), Chr. *kēu*, bananas, "which grow in great abundance." Sin. *kehel*.

Cute (p. 129), must be a misprint for *earé*, as in vocabulary. Chr. has *kārhi*, fruit of the coco-tree. These were very cheap in Pyrard's day; 400 for a larin=8 sols.

Candou (p. 135). Name of a tree, as large as a walnut, with leaves like the aspen and as white, but very soft. It has no fruit and is not good for burning. It is cut into planks, and it is the lightest of all woods, more so than cork. It is used (i.) for floating up coral from the sea-bottom, (ii.) for making rafts (*eandouepatis*), (iii.) for generating fire by rubbing. (Comp. Sin. *kanda*, trunk of a tree.)

(viii.) Diseases.

Malé ons (p. 95), Malé fever. (Sin. *una* 'fever.')

Ont eory (p. 96), or *on eory* (p. 203), disease of the spleen, accompanied by fever, supposed to be due to bad water; cured by the application of caustic; this makes a large cicatrix, to which they apply cotton soaked in coconut oil, which relieves them.

Cariuadiri (p. 202), Chr. *kariweduri*. Sin. *wasūri*, 'smallpox.'

Rosnans (p. 202), Chr. *roshuwandu*. A blindness which comes on after sunset, cured thus: They boil the liver of a cock, and write certain words and charms over it; it is eaten by the patient at sunset. Pyrard and his companions, being troubled with this ailment, tried the same remedy (omitting the sorcery) with perfect success.

Caz (p. 202), Chr. *kas*, Hind. *khaj*, Sin. *kushta*, 'the itch.' This is very common: cured by coconut oil.

Quilla panis (p. 202), "C'est à dire cirons de bouë," parasitical worms (perhaps Sin. *kasala*=excrement, *panuwa*=worm).

Farangui baeseour (p. 203), syphilis, "from which they do not suffer much." "They call this disease *farangui baeseour*, on account of it having come from Europe, whose inhabitants they call by a common name *farangui* or *frangui*, from the French being the most renowned people of the West."[1] With *baescour* comp. Ar. *bāsūr* 'piles.'

[1] "O auctor devia saber que tambem na Europa o nome desta molestia traz a sua derivaçaõ da mesma origem, privilegio que as outras naçõ̃es não invejam por certo aos Francezes."—Viagem de F. Pyrard, vol. i. p. 159, *note*.

(ix.) Social and Miscellaneous.

Vedon a Rouespou (p. 80), Chr. *wedung*, present given to a visitor of rank.

Caty (p. 90), a bill-hook. Sin. *kæti*.

Riens (p. 99), Chr. *riya*, a measure, the length of the arm. The Sin. *riyana* is only a cubit.

Moul (p. 99), Chr. *murhe*, a measure, from elbow to tips of fingers.

Pinguy (p. 110), penguins.

Assa (p. 198), 'pardon me,' said by one who passes behind another: probably connected with the Sin. *awasara* 'leave,' used on similar occasions.

Gaux (p. 208), Chr. *gau*. Lieut. Robinson, in Trans. Bom. Geog. Soc. vol. i. p. 102, gives *goolah*=a quarter of a pound. Sin. *gala*, i.e. 'a stone weight.'

Aphion (p. 216), Chr. *afchung*, Ar. *afyūn*, opium, commonly eaten by the Maldivans.

Gas (p. 218), 'make way,' or 'beware,' cry given by a man who is conducting a woman to pay a nocturnal visit, in order that all passers-by may move out of the way, and may not discover who she is nor where she is going.

Gandoyre (p. 236), and *gandhouere* (p. 337), Chr. *gaduwaru*, the royal palace and its offices; also the houses of the royal princes.

Iader (p. 239), a Bengal carpet or curtain of fine cloth.

Larins (p. 248). The larin was a silver coin (taken from Persia) worth 8 sols, "as long as the finger but doubled." This coinage is apparently the same as the fish-hook of Ceylon.[1] "The king coins them in his own island and impresses them with his own name in Arabic characters."

Calin (p. 249), "a metal white as tin, but harder and finer, commonly used throughout India for coinage." Ar. *ḳala'i* 'tin.'

Cairo (p. 262), Chr. *ronu*, Tam. *kayiru*, 'coir.' The tribute to the Portuguese at Goa consisted of coir and cowries.

Ana poute iringua (p. 289), "my son, be seated," *cf.* Sin. *anē putā* "my son."

Sompas (p. 339), misfortune, disaster.

Sabatz (p. 334), 'thank you,' and also 'well done!' "a word commonly used in India."

Las (p. 402), varnish or paint.

Arac (p. 408), arrack.

Suppara (p. 409), dried coconut, much exported from the Maldives as *copra*.

[1] See part iv. of Numismata Orientalia by Mr. Rhys Davids, p. 34; Knox's *Ceylon*, 1681, pp. 98, 99.

The preceding pages sufficiently indicate on the side of language the relationship of the Maldivans and the Sinhalese. The political connexion, which has been incidentally alluded to, is slight and undefined. On the occasion of the annual embassy from the Sultan to the Governor of Ceylon, the former claims the protection and favour of the British Government; the Governor on the other hand stipulates for succour to Europeans shipwrecked at the Atolls. It is well understood by the islanders that their independence rests upon compliance in this respect. In Pyrard's day a wreck became the property of the Sultan; similar law applied to a ship whose captain died at the islands, and nefarious means were occasionally adopted to expedite that event. Such acts are attributable to the cupidity of the rulers, the natives themselves being reputed in all ages peaceable and humane. In modern times the wholesome dread of English power has induced the Sultan to render all necessary protection to the lives of those shipwrecked on his coasts. It seems, however, to be still thought that, after the occurrence of a wreck, the captain has lost all right to his goods and cargo. When the "Liffey" was wrecked on the Nillandu Atoll in August last year, the people would in no way assist the master to recover any of the cargo, "they could not do so without express leave of the Sultan," though they provided boats, pilots, and provisions for the conveyance of the crew to Malé. This is hardly a satisfactory state of things.

Another subject to which the attention of the Ceylon Government should be turned is that of Maldive trade, which all accounts describe as being in a state of decline. In the days of Ibn Batuta and Pyrard, the islands enjoyed great prosperity of traffic and productiveness. But, as is too often the case, peace and plenty have given place to listlessness and scarcity. The cultivation of fruit and vegetables is generally disregarded; and the supply of grain, nearly all of which is imported, is precarious and insufficient. Even at Malé last year, rice was not procurable by the sailors of the "Liffey," who had to subsist for three weeks on cocoanuts and fish. The islands used to produce, and could now

produce in abundance most kinds of tropical fruit and vegetables, while the trade in coconuts, coir and oil, in fish and tortoise-shell, arising from 175 inhabited islands, might be vastly increased.

Lastly, attention should be directed to Maldive literature and archæology. There are said to be but few old MSS. in existence; but the islands abound with inscriptions on walls and gravestones of many ages, in Persian and Arabic, in the *Dewehi Hakura*, and in two kinds of the *Gabali Tana*.

Measures should be taken by the Ceylon Government without delay to render more intimate the connexion with its only dependency, and, overcoming the jealousy of the Maldive ruler, if any still exist, to extend to his subjects some of the benefits of Ceylon civilization. Lord Londonderry, when Secretary of State for the Colonies, is said to have consented to the establishment of a permanent British Resident at Malé, but the promise has never been carried out. Considering the present condition of the islands, and their reputed unhealthy climate, no European need be subjected to so severe a banishment; but it may be suggested that a civilian of tact and experience, accompanied by a competent Sinhalese secretary, should be sent for three or four months in successive years to report upon the government, trade, and archæology of the Maldives. The Government steamer might also make perhaps two visits a year to the Atolls, without seriously interfering with its Ceylon duties. If some such measures are taken, much advantage may be predicted both for Ceylon and for its dependency, the innumerable Maldives.

Art. IX.—*On Tibeto-Burman Languages.* By Capt. C. J. F. S. Forbes, of the Burmese Civil Commission.

The term 'Tibeto-Burman' has latterly crept into use as a convenient designation of a very large family of languages which appear more or less to approximate to each other. They are those which Max Müller classes as Gangetic and Lohitic, names which, with all due reference to the learned Professor, really have little relevant meaning in this case.

Under no other head perhaps is so vast a number of dialects included. Max Müller gives forty-five, and this only includes the dialects known and recorded; whereas it is stated that, among the Nága tribes, different dialects exist in almost every separate village, which would increase the number *ad infinitum*. It may be as well to state, while referring to Prof. Max Müller's list,[1] that he has erroneously entered under the class 'Lohitic' a language called 'Tunglhu' in Tenasserim. By this is evidently meant the 'Toungthoo,' which however is a dialect of the Karen, which the Professor does not, and rightly so, class as Lohitic. Whether it is really necessary to preserve this long nomenclature is a question. Logan has concisely described the process of the manufacture of these multifarious dialects.

"Perpetual aggressions and frequent conquests, extirpations of villages, and migrations, mark the modern history of nearly all these Tibeto-Burman tribes, and of the different clans of the same tribe. Their normal condition and relations, while extremely favourable to the maintenance of a minute division of communities and dialects, are opposed to any long preservation of their peculiarities. We find the

[1] Science of Language, vol. i. p. 452.

same tribe separating into clans and villages permanently at war with each other. Kuki fleeing from Kuki, Singpho from Singpho, Abor from Abor. We can thus understand how, in such a country, and before the Aryans filled the plains, the lapse of a few centuries would transform a colony from a barbarous Sifan clan, descending the Himalaya by a single pass, into a dozen scattered tribes, speaking as many dialects, and no longer recognizing their common descent." [1]

"Within the mountainous parts of the limits of the modern kingdom of Népal there are thirteen distinct and strongly marked dialects spoken. They are extremely rude, owing to the people who speak them having crossed the snows before learning dawned on Tibet, and the physical features of their new home having tended to break up and enfeeble the common speech they brought with them. At present the several tribes or clans can hardly speak intelligibly to each other." [2]

We shall have to contemplate a similar state of things in the country lying east of the Brahmapootra river, and along the chain of mountains that hem in the independent kingdom of Burma on the north and west.

The affinity between the Burman and Tibetan races has been sufficiently recognized not to require detailed proof. The connexion and relation of the minor tribes to the Burmese has been in some cases allowed, in others left an open question requiring further investigation.

Dr. Mason enumerates eleven Burmese tribes "of unquestionably common origin," and adds several others whom he considers as doubtful. They are as under:

Burmese.	Doubtful.
1. Burmese.	Kakhyens or Kakoos.
2. Arracanese.	Kamis or Kemees.
3. Mugs.	Kyaus.
4. Kanyans.	Koons.
5. Toungooers.	Sak.
6. Tavoyers.	Mru.
7. Yaus or Yos.	Shendoos (or Kúkis).
8. Yebains or Zebaings.	
9. Pyus.	
10. Kados.	
11. Danus.	

[1] Journ. Ind. Arch. vol. ii. p. 82. [2] Asiatic Researches, vol. xvi. p. 409.

We may very shortly dispose of several in this list. The term 'Mugs' is simply an epithet applied to the Arracanese by the people of Bengal, unknown to the Burmese language; the meaning of the word cannot even be ascertained, and to enter it as a tribal name in a scientific list is like including the 'Yankees' as one of the nations of America, distinct from the Americans. It is rendered still more absurd when Phayre derives it "probably from a tribe of Brahmins termed 'Magas,' said to have emigrated eastward from Bengal;" to which Mason adds, "Magas looks very much like Magos, the priest of the Medes." Was this meant in earnest? Next we have the 'Kanyans,' who are traditionally said to have been one of the tribes that were incorporated to form the 'Burman' nation; where they now exist, or what is their language, it would be a puzzle to ascertain. The same applies to the 'Pyus,' said to have been the tribe inhabiting the present district of Prome, but now as unknown there as the Trinobantes are in Middlesex. Toungoo or Toungnoo was one of the petty kingdoms founded by younger branches of the Burman royal family, as the head of the race grew weak, and though the main body of the population was Burmese, it was very mixed, and has no more claim to rank as a separate tribe than has that of any other Burman town.

The 'Tavoyers,' or people of Tavoy, might, in virtue of a very peculiar dialect, claim tribal rank; but they are only a colony of the Arracanese, as is stated in their traditions and confirmed by their language, which has since become corrupted by Shan or Siamese influence. But there is no reason for separating them either ethnologically or linguistically from their parent stock.

The Yaus, Yebaings, Kados, and Danus, are recognized by the Burmans proper as being the wilder and more primitive branches of their race; but, unfortunately, we have no trustworthy specimens of their dialects from which to form conclusions. The dialects of the Yaus and Yebaings are certainly unintelligible to any Burmans, and the numerals of

the latter show no affinity to any of their neighbours. They are :

1. tsoomeik.
2. tsoo-toung.
3. baloungtha.
4. lah-bee.
5. hgay houk.
6. louk-kay.
7. thai khan.
8. loung moo.
9. ngain koung.
10. loung-teik.[1]

Mason says the Danus "speak the Burmese language in a rude nasal and guttural dialect."

In the absence of further information we can only conclude that these are some of the many petty clans of kindred race which the force of circumstances amalgamated into a political unit as the Burman nation, these retaining in a greater degree their primitive characteristics.

We are now reduced to the two great branches of the Myamma or Burmese race; the Burmans proper, and the Arracanese. Should these be so clearly and absolutely divided ?

The traditions or histories of both nations give us the same account, that, on the death of the founder of the first Burman kingdom, his two sons disputed the succession to the throne, and one of them led a part of the people to the westward across the mountains, and established a separate kingdom in Arracan, driving out the savage occupants of the country. According to this there is no ethnological distinction originally between the Arracanese and the Burmans proper. What is the divergence in language ?

The Burmans acknowledge that the oldest and purest form of their language has been preserved in Arracan. This is borne out by the evidence of the dialect itself, which retains the original pronunciation of words which are subject to permutation of the letters in Burmese, and which also uses many words in a sense now obsolete in Burma proper. The structure of the two dialects is however precisely the same, and their divergence is not more than exists between the English of Somersetshire and Middlesex.

The Arracanese and Burmese differ in two essential points; namely, that, in the former, words are pronounced phonetic-

[1] Collected by Capt. Forbes in the Shwegyeen District.

ally or nearly so, while, in the latter, several letters acquire in certain combinations entirely different values. Thus in all the Indo-Chinese languages the vowel 'a' being inherent in every consonant where no other form vowel is expressed, the combination 'k'k' would be pronounced truly in Arracanese 'kăk,' but in Burmese both the sound of the inherent vowel and of the final consonant would be entirely changed, and the above combination would be pronounced 'ket.' In the same way 'ap' is pronounced 'at';—'am,' 'an';—'et' 'eik';—and so in several other forms, whereas in Arracanese these retain their natural phonetic values.

Secondly the Arracanese uses many words and forms of expression which have either become obsolete in Burmese, or have acquired another meaning. To instance one striking case. The Arracanese and several of the Hill tribes use the word 'lá' for 'go,' while this in Burmese means 'to come,' and could not possibly signify 'go,' but we find that in Burmese this same root 'la,' with the heavy accent, means (to use Judson's definition), "to proceed from a starting place to some boundary," although it is never found in actual use in this sense. The Arracanese has thus retained the root in both its forms and senses as 'to come' and 'to go,' while the Burmese has rejected its application in the latter sense. The Arracanese dialect is also much more guttural and harsher in sound than the Burmese, which delights in softening and smoothing over any difficulties of pronunciation. This is especially remarkable in the letter ရ, which is really an *r*, and so pronounced by the Arracanese, but is softened into a *y* by the Burmans. The following examples will afford the means of contrasting, by a few simple sentences, the peculiar features of the two dialects, and will show how little real difference there is between them. The upper line gives the Burmese, the middle the English translation, and the lower the Arracanese.

1. kyunop-do, or kyun-do.
we we
akyuanop-ro, akyuan-ro.

The Burmese omits the inherent 'a' in 'kyu'n' which the

Arracanese fully gives. The plural affix is 'do' in the first and 'ro' in the second.

2. nga-do.
   we
   nga-ro.

3. nga-do netpan thwa leim mee.
   we to-morrow go will.
   nga-ro manet-ka ta mee lo.

4. ming bey go thwa mee lai.
   you where go will? (Where are you going?)
   mang zago lá hpo lai.

The Arracanese here gives the true sound of the inherent vowel in the form 'm'ng' which the Burmese converts into an 'i' 'm*i*ng.' Instead of the Burmese 'bey' 'what,' 'where,' the Arracanese has an old form 'za,' now obsolete in Burma. We find 'lā' 'go' for the Burmese 'thwa,' as mentioned above, and in place of the verbal affix 'mee' the Arracanese uses 'hpo.'

5. Ning nga yeik leim mee.
   You I beat will.
   Nang go nga that leim mee.

Here the word 'that' is employed by the Arracanese in the sense merely of 'to beat,' 'to strike,' but in Burmese it would mean only 'to kill,' used in such an expression as the above; yet in one case it is still retained in Burmese in the sense of 'to strike,' namely, with respect to the act of striking in boxing.

These examples display the chief points of divergence between the two dialects, and show that the Arracanese has preserved the older and purer form of the language, while the Burmese has been greatly subject to phonetic decay or corruption. This is, doubtless, in some degree owing to the different social and political history of the two countries. Arracan has been much more isolated, and the people have preserved their race purity to a greater extent. Their intercourse has chiefly been with the distinct and alien Hindu race, whose influence, though in some things great, has little affected their language or their blood. Burma, on the con-

trary, has been subject to long and frequent periods of domination by nations of kindred origin, the Shans, and the Mons, and to close intercourse with them and also with the Chinese, throughout her history. The Burmans have received a vast amount of foreign and yet kindred element into their nation, which has amalgamated with and been insensibly affected by it; while the Arracanese and their Hindu neighbours have remained in contact, but, like oil and water, without fusion.

We have thus reduced Mason's list of eleven Burmese tribes to six ascertained varieties of dialect, and it is probable that for a general classification of languages, which does not deal with mere provincialisms, the term 'Burmese' should be made to include the Arracanese, Kados, and Danoos. The Yau and Yebaing, as far as we know of them, must still be kept distinct.

There remain the 'doubtful' tribes, all of whom, except the Kakhyens, inhabit the mountainous country lying between Bengal and Burma, generally known as the Arracan range, whence these tribes are known as the 'Arracan Hill Tribes.' Logan often terms them 'Yoma tribes,' but 'Yoma' is simply a Burmese word meaning *any* mountain range, and therefore a misnomer if applied thus specifically. Of late years our knowledge of these tribes, and others in similar positions in the North-East part of Bengal, has much increased, and their mutual relationship and connexion with the Tibeto-Burman family more clearly established. Of all these tribes the Burmese (including their Arracanese brethren) alone have any literature, or possess any probable traditions of their origin and early history. According to Burmese traditions, the founders of their race and nation came from the West, from the valley of the Ganges, into their present seats, which they found occupied previously by the wilder tribes who are now confined to the mountain tracts. They even claim a Rajpoot origin for the people, while the royal family pretend to trace their descent from the sacred Solar and Lunar dynasties of Hindustan. This myth has generally been ascribed to national vanity and arrogance, and com-

pletely ignored. Sir A. Phayre is quite opposed to the theory, and says: "The supposed immigration of any of the royal races of Gangetic India to the Irrawaddy in the sixth century B.C., or even later, will appear very improbable. I see no reason for doubting that they (the Burman tribes) found their way into the valley of the Irrawaddy by what is now the track of the Chinese caravans from Yunnan, which track debouches at Bamo on the river."[1] That is to say, Sir A. Phayre places the original domicile of the Burman race in the South-Western provinces of China. Whether he would now deliberately uphold this opinion is doubtful, and, with all respect for so great an authority, it appears utterly without foundation. There seems no reason why we should peremptorily reject the Burman tradition in so far as it traces their migratory route from the Gangetic valley. Their Rajpoot origin is of course an invention of courtly historians of a date after the introduction of Buddhism; but, in the absence of any clear evidence to the contrary, it appears more reasonable to follow the lines of ancient tradition as far as they agree with probabilities. What little evidence on the subject we can collect seems also to support this idea.

The Burmans represent themselves as the last comers in the country, and state that when they penetrated into Arracan, they found the country occupied by savage monsters termed by them Beloos, whom they expelled; an evidently figurative account of the wilder tribes whom they found in prior possession of the soil. Sir A. Phayre and other authorities consider it as most probable that such actually was the case. We should then have, after the first wave of the Mon-Annam immigration, an irruption of a number of petty savage tribes, whose representatives and descendants at the present day occupy the Hill tracts, in much the same state as their forefathers were.

The Hill tribes of Arracan are, according to the Administration Reports, the Khyengs, the Kamis or Kumis, the

[1] History of the Burman Race, Journ. Asiat. Soc. Bengal.

Mrus, the Sak, the Kyaus or Chyaus, the Anoos, the Toungthas, the Shendoos or Kukis, and two or three other petty tribes, of which only a few families exist; but it is probable that a better acquaintance with them would show that these are only clannish divisions of some other tribe.

These tribes, if we allow the evidence of language, of manners, and of physical characteristics, are closely allied to the Nága tribes of Eastern Bengal, and to the Abors and Mishmis of Assám. It is generally believed that these or kindred races of Turanian origin occupied the valley of Gangetic India before the advancing Aryan invaders drove them from the plains to their present mountain fastnesses. All these tribes doubtless formed the first wave of the later Turanian emigration from the Central Asian plateau, the Bhotian and Burman races being their successors. To them also would seem to belong those whom Hodgson calls the "broken tribes" of Nepál, the Chepang, Vayu and Kusunda. These latter tribes afford an important and curious link in the chain of evidence, which thus stretches from the Arracan Hills far away to the westward, to the Kali and Gunduk rivers in West Nepál.

Hodgson has clearly shown the connexion of the Chepangs with the Tibetan and Lhopa races, and has traced the affinities in these dialects in a pretty full vocabulary of the Chepang language. But by far the greater number of coincident words are derived from roots common to all or nearly all the cognate dialects of Tibet, Nepál and High Asia. Thus variations of the simple roots for such words as eye, fire, day, moon, dog, fish, sun, road, and several others which he gives, are common to a dozen other dialects besides the Chepang and Tibetan or Lhópa, and are found in Nepál, in Sifan, in Burma, in Siam, and do not prove a closer affinity between the Chepangs and the Lhopas, than between the former and the Néwars, the Manyak or the Burmans.

But when we compare the widely sundered languages of the Chepangs and of the Hill Tribes of Arracan, we are at

once struck by the identity sometimes of roots, often of actual words, which are not to be found in any of the cognate Tibeto-Himalayan or Sifanese dialects. In some cases the root is common to others of these languages, but the particular form in the Chepang is only found in the Khyeng, the Kumi, or the Karen.

Some examples are given below for comparison, there are many other words in which a common root may be found in other dialects :

	Chepang.	Arracan Tribes.	
1. Arm	Krût	Makuht	Khyeng.
2. Bird	Mo-wá	Ta-wá	Mru.
		Wá-si	Sak.
3. Blood	Wí	Wí	Mru.
4. Child	Cho	So	Khyen.
5. Dawn	Wágo	Awâ	Khyen.
6. Fowl	Wá	Ta-wá	Mru.
7. Hog	Piak	Ta-pak	Mru.
8. Hand	Kút-pa	Kuth	Khyen.
		A-kú	Kumi.
		Rut	Mru.
		Ta-ku	Sak.
9. Hair	Min	Kú-mi	Sak.
10. Insect, ant	Pling	Mling	Khyen.
		Ba-lin	Kumi.
		Pa-lin	Kumi.
11. Milk	Guú-tí	Sui-twi	Khyen.
		Nuh-tie	Karen.
12. Ox	Shya	Sharh	Khyen.
		Tsi-yá	Mru.
13. Monkey	Yúkh	Ta-yút	Mru.
14. Night	Yá	A-yán	Khyen.
15. Woman	Mirû	Mru (=man)	Mru.
16. To Give	Buï-sa	Na-pú	Kami.
Sa = verb affix.		Pei	Kumi.
17. To take	Li-sa	La	Kami.
		Lo	Kumi.

In 2, 6, 7, 13, it will be seen that the syllable 'ta' is the nominal prefix in Mru. In 9 'ku' in Sak means 'head,' 'ku-mi' is therefore 'head-hair.' In 11 the first root in each dialect signifies 'breast,' the second 'water,' milk is therefore literally 'breast-water.'

This resemblance between dialects separated by so great a

distance geographically, and by centuries of time, is surely in itself sufficient to prove the affinity of the tribes speaking them. Hodgson has conjectured that these 'broken tribes' between the Kali and Gunduk rivers may have been separated from their kindred and driven westward. We may also suppose that at an early period the whole sub-Himalayan region was occupied by tribes allied to the Chepangs and Arracan mountaineers, who were cut asunder and driven out of central Nepál by the incursion of the Newar races at present possessing the country, some 1000 to 1300 years ago, which is the date Hodgson assigns to this event.

Many years have elapsed since Mr. Hodgson, by his researches, indicated "that the sub-Himálayan races are all closely affiliated, and are all of northern origin;" it would only be quoting from his well-known papers to enter further on this subject. We have linked the Western Hill Tribes of Burma with the widely sundered Chepangs and Kusundas of Nepál, but a vast gap exists between the Gunduk river in Nepál and the eastern bank of the Brahmapútra, where we meet the next representatives of this race.

Here, in the vast tract of mountainous country stretching from the Gáro Hills along the southern part of Asám, and bordering on Munipur and Burma, is the home of those multifold tribes and clans, of which the greater proportion is classed together under the term 'Nágá.' Here also are the Gáros, Khásias, Kacharis, Kukis, Singphos, and several other tribes whose mutual relation to each other does not yet seem quite determined. When we compare their vocabularies with each other, they exhibit singular affinities, and all that we know of them confirms the supposition that they form but one great race, of which the tribes in the Arracan Mountains of Burma are but the branches. One of the best authorities on the Nágá races, Captain J. Butler, affirms: "Our late explorations have clearly ascertained that the great Nágá race does undoubtedly cross over the main watershed dividing the waters which flow north into the Brahmapútra, from those flowing south into the Iráwadí; and they have also

furnished very strong grounds for believing that in all probability it extends as far as the banks of the Kaiendwen (Námtonái or Ningthi) river, the great western tributary of the Iráwádi. Indeed, there is room to believe that further explorations may, ere long, lead us to discover that the Kakhyen and Khyen (often pronounced Kachin and Chin) tribes, spoken of by former writers (Pemberton, Yule, Hannay, etc.), are but offshoots of this one great race."[1] In 1835 Captain Hannay, with the little knowledge then possessed of these people, identified "the Khyens with the Nágás of the Asám mountains." In comparing the vocabularies of these races, and drawing conclusions from them, we must remember that the peculiar character of these dialects, and the social conditions of the people speaking them, constitute an important element in the comparison. Max Müller truly says: "No doubt the evidence on which the relationship of French and Italian, of Greek and Latin, of Lithuanian and Sanskrit, of Hebrew and Arabic, has been established, is the most satisfactory; (but) to call for the same evidence in support of the homogeneousness of the Turanian languages, is to call for evidence which, from the nature of the case, it is impossible to supply. . . . The Turanian languages allow of no grammatical petrifactions like those on which the relationship of the Aryan and Semitic families is chiefly founded. If they did, they would cease to be what they are; they would be inflectional, not agglutinative. If languages were all of one and the same texture, they might be unravelled, no doubt, with the same tools."[2]

In the case of the languages and dialects about to be mentioned their greatest peculiarity is their mutability. We are told of offshoot villages from a clan being formed across two or three mountain ranges distant from the parent valley, and in three generations the language of their grandfathers has become unintelligible to the colonists. Among civilized tribes, before we assumed any racial connexion on the mere evidence of affinities discovered in their languages, we

[1] Journ. Asiat. Soc. Bengal, 1875, vol. xlv. p. 398.
[2] Science of Language, vol. ii. p. 25.

should naturally seek to ascertain in the first place whether any historic connexion or intercourse had ever existed between them, by which they might have mutually influenced each other's speech. But among these rude and savage tribes, to be separate is to be hostile; each village, or at least each clan, is too isolated, and too jealous of its neighbours, to *borrow* from them any appreciable portion of their language. Where then we find an unmistakable affinity of speech, we may safely suppose an affinity of race and a common origin. But when we find a number of tribes differing from each other in dialect, preserving amongst them a large number of words or roots, which we discover again among certain other tribes separated by a great distance, and with whom they have had no intercourse for ages, and these words not common to all of them, but some here and some there, the evidence of their mutual relationship is rendered much stronger. Such is the case with the two groups of languages or dialects we shall now compare. The first consists of the Hill Tribes of Arracan, viz. the Khyeng, the Kami, the Kumi, the Mru and the Sak. The second consists of the Garo, the Kachari, the various Nágá tribes, the tribes of the Munipúri valley, the Abor and Mishmi of Asám, and the Singpho. The words are taken for the sake of easy reference entirely from Hunter's Dictionary and the Rev. N. Brown's Tables. It will be seen that the corresponding roots are not found in all the dialects alike, but some in one, some in another, and it is singular that a large number of them are found to correspond with the Mru and Sak tribes that have been long under Burmese influence, and are said to be of the "same lineage as the Burmese."[1] Only a sufficient number of words to serve as a fair example are quoted, and all words which are common to the Burmese and other Tibetan dialects are omitted. Such are, boat, day, fire, fish, hog, moon, road and many others which belong to the mother-language of all the Tibeto-Burman dialects.

[1] Mason.

The first three numerals are either peculiar to each dialect by itself, or are founded on Tibetan roots, then follow:

	Arracan.	Naga, etc.	Burmese.
Four.	ma-li	me-li	lay
	ta-li	a-li	
	pa-lu	pha-li	
Five.	pang-gná	pha-ngá	ngá
	ta-ngá	ba-ngá	
Six.	ta-ru	ta-ruk	khyouk
Seven.	tha-ni	the-ne	koh-hnit
Eight.	sat	i-sat	shit
Nine.	ta-ku	ta-ku	kó
Ten.	si-su	si	tsé
Twenty.	hún	khún	nhit-tsé
Arrow.	to-li-malá	malá	hmyá
	li	lá	
Bird.	ta-vá	vá	hnget
	ta-wu	wu	
Blood.	a-thi	a-thi	thway
Cow.	tha-muk	sa-muk	nua
Ear.	ka-nhan	kha-na	na
	a-ka-na	akhana	
Earth.	ka-laí	klai, thalai	myay
Elephant.	ka-sai	kasai	tsin
Hand.	kuth	kut-pak	let
Head.	lú	lu	goung
Horn.	a-rung	a-reng, rung	gyo
	ta-ki	ta-ki	
Horse.	sapu	sapuk	myen
Mother.	anu, nu	an-nu, onu	amay
Night.	ayán	ayan	nya
Star.	kirek	merik	kyay
Tree.	tsindung	sundong	apin
	thin	thing	
Village.	nam, thing	nam, ting	yua
Water.	túi	tü, tui	yay

We have thus a large number of common words in which the Arracan dialects agree closely with the various dialects spread over the country extending north and west to the Brahmapútra River, and in which they differ from the Burman. The extent of the coincidence is too great to be fortuitous, and the past history and social condition of these tribes forbid our ascribing it to mutual intercourse and influence, such as has caused the adoption of several

Hindustani words for domestic objects, in some of the Brahmapútra dialects.

We have thus collected into one group, more or less closely allied, the Chepang and other 'broken tribes' of West Nepál, the Arracan Hill tribes, and those various races to the east and south of the Brahmapútra. The next step will be to show the connexion between these last and the Burman. That they belong to the Tibeto-Burman stock is generally conceded, it will only therefore need to take a few examples from three representative dialects, the Mikir, the Kuki, and Nágá :

	Burmese.	Mikir.	Kúki.	Nágá.
Bitter	Kha	aké-ho	akhai	Kékhu
Blood	Thway		Thi	Thé-za
Eye	Myet(k)	mék	Mit	Mhi
Eyebrow	Myet-kon	mékúm	kemit-kho	
Fire	Mee	mé	mei	mí
Fish	Nga		ngá	ná
Fruit	a-thēē	athé		
Great	kyee-thee	ké-thé		ké-di
House	Eim	hém	in	
Kill	that		that tan	
Listen	na-toung		ngai-tan	
Little	a-nay		a-néo	
Long	a-shay		a-shao	
Moon	la		lhá	
Nose	na-koung	no-kan	nakúi	
Rice	tsau	sang	chang-chang	
Road	lam		lampi	lamá
Sick	na		ana	
Tail	a-myee	armé	amei	mi
Water	yay	lang	tui	dzu (Kachari di)

The word 'water' is singular in having preserved in each dialect a separate root, and all differing from the Burmese. Thus the Kuki has the 'tui' of the Arracan Hill Tribes, from the Chincse 'sui'; the Nágá has 'dzu,' derived, like the Tibetan and Serpa 'chu,' from the Chinese 'chui'; the Kachari preserves the 'ti' root of the Karen dialects in the form of 'di' (d=t); while the Mikir 'lang' seems to be derived from the Newar 'la,' or more probably is a form of an archaic root preserved in the Kusunda 'tang.' Thus

these kindred and neighbouring dialects possess in this word 'water' distinctive roots belonging to four widely sundered separate branches of Turanian speech. This can hardly be chance, still less probable is it that each deliberately *borrowed* its peculiar term; we must believe that each dialect in its earliest growth adopted and kept one of the many synonymous roots of the common mother Turanian language.

The first five numerals are given below, and it may be noted that they afford an instance of what Max Müller and other philologists have remarked of the tendency of these savage dialects to find separate expressions for the first and often the second numerals, while deriving the others from common roots.

	Burmese.	Mikir.	Kuki.	Naga.
One	Ta, tit	Isi	Khat	A-khet
Two	Nit	Hi-ni	Ni, nik	A-ne
Three	Thong	Ké-thom	Thum	A-sam
Four	Lay	Phi-li	Ll, li	Pha-li
Five	Nga	Pha-nga	Ra-nga	Pha-nga

It will be seen that there is less resemblance to the Burmese forms than to some of the Himalayan dialects, especially to the Magar numerals, 1. kat, 2. nis, 3. song, 4. bu-li, 5. ba-nga. The country of the Nágá tribes has been already described; the Kukis extend over the hilly tracts from the valley of the Koladan in Arracan, where they border on the Kumis, to Northern Cachar, where they march with the Mikir tribe on the Kopilee river. This latter clan (the Mikir) occupy the hills of the Nowgong District east of the Brahmaputra River. They are the furthest removed of all these tribes from possible Burman influence, and still they exhibit the closest affinity in language to them. It must, however, be said that these tribes, having probably the same origin as those of the Arracan Hills, seem to have formerly occupied the whole mountainous country around the head-waters of the Kyendwen River, until in comparatively recent times they were driven westward by the Singpho, Abor, and Khamti races.

We have hitherto dealt with the wilder tribes on the western side of Burma, but there remains one great and

important race which extends itself along the whole northern frontier of Burma Proper from Yunnan, where it is designated 'Kakhyen,' into Assam, where the tribes style themselves 'Singpho,' that is, 'men' *par excellence*. It has been alleged that they are allied to the Karen race, and this by so late a writer as Anderson in his "Mandelay to Momein," published in 1876, but except in their state of savage rudeness, and certain customs that are common to almost all the primitive tribes of these regions, there is really nothing to warrant this idea. On the contrary, the comparison of their vocabularies shows that, outside the common Indo-Chinese roots, all their lingual affinities are with the Burmo-Naga languages, as shown below:

	Burmese.	Naga Dialects.	Singpho.	Karen.
One	ta, tit	Ama	Ai-má	hta, la
Two	nhit		nkhong	'kie, nie
Three	thong	A-sam	ma-sum	theu
Four	lé	a-li, be-li	me-li	lwie, lie
Five	uga	mānga	ma-nga	yai
Six	krouk	ta-ruk / kruk (Chepang)	kru	khu, khoo
Seven	koo-nit	nith, i-ngnit	si-nith	nwi, nwai
I	nga	ngai	ngai	ya, yer
Thou	nang, nin	nang	nang, ni	nah, ner
He	thoo	mih, kho (Tibet)	khi	awai, ur
Air	lé	ma-bung	m'bung	kli, li
Bird	nghet	ta-wu (Kumi)	wu	to, tu
Blood	thway	ai-chui	sai	thwi
Bone	aro	rha, kereng (Garo)	nrang	khi, kwi
Cow	nua	masu	kan-su	po, k'lau
Dog	kway	kui	gui	htwi
Fire	mee	van	wan	may, mi
Flower	pan	taben	siban	paw
Hair	san	kra (Murmi) / śkra (Tibet)	kara	kho-thoo
Hand	let	lappa (Bhutan)	lettá	tsu, su
Head	khoung	gu-bong	bong	hko
Hog	wak	vak, vah (Horpa)	wa	to, htu
Horse	mrang	se rang (Chepang)	ka-mrang	ka-thi, thi
Moon	lā	yita, lita	sita	lah
Mother	may	annu, nu (Khyen)	nu	mo
River	mrach	kharr	khá	klo
Road	lam	lam	lam	klay
Salt	tsa	hum, sum	jum	itha, htula
Sun	nay	san, sanh	jan	mu, muh

In these examples some of the Burmese words are written as spelt, and not as pronounced, to show the true root. There is surely enough to warrant our affiliating the Singpho to the Nagá, and not to the Karen race, until the latter theory is proved by some incontestable evidence.

The Singpho or Kakhyens now fringe the whole northern frontier of Burma, extending from the Chinese province of Yunnan into the valley of Assam. Their irruption into Assam took place about 1783, and is a comparatively modern instance of the flux and reflux which characterized the early movements of all these races. Cut off for centuries from their Nagá brethren, who at one time joined them in the Upper Valley of the Khyeen-dwen River, as their tribes increased in numbers, they have had no room to expand eastward, owing to the barrier opposed by Chinese civilization; the Burman power checked them on the south: they have thus been forced to use the only outlet afforded them, and partly retrace westward the route of their original migrations.

Art. X.—*Burmese Transliteration.* By H. L. St. Barbe, Esq., Resident at Mandelay.

In 1872 the Local Government of the province arranged to become purchaser of Dr. Mason's work on "Burma." The author was an American missionary, who had spent nearly all his life in the country, and whose name is well known amongst Oriental scholars as having been the first to discover and bring to light Kaccayāno's Pali Grammar, which is to this day the handbook here in every village school. The last edition of "Burma" had been published in 1860. Since that date the writer had been amassing new collectanea, and it was agreed that he should personally supervise a fresh publication, which was intended, in his hands, to become a kind of encyclopædia of all scientific subjects connected with the province. But Dr. Mason was never destined to see the consummation of the work he had laboured at so long. For some time his missionary duties interfered with all active literary endeavour, and his death in 1874 finally prevented the execution of the original design. His notes and MSS., after remaining for three years in the possession of his widow, have been consigned by Government to one who is fully conscious how incompetent he is single-handed for the task.

Before his decease, Dr. Mason had consulted with the Secretariat on the question of an uniform scheme of Burmese transliteration to be employed in the forthcoming work. He pointed out that no recognized system was at present in force: every Government servant was at liberty to follow his own method; the result being that the English equivalents

for even the commonest vernacular names were very rarely alike in two publications.[1]

No definite plan, however, was adopted, either by the Local Government or by Dr. Mason, and the same initial difficulty still remains in the way of his successor.

There have been a variety of systems suggested. Captain Latter, Dr. Judson, Colonel Horace Browne, and Dr. Hunter have all attempted a solution of the problem. Their efforts have been entirely confined to a more or less exact reproduction of the language as it is spoken. This is no doubt a difficult matter, but the difficulty in their case has been intensified by their reluctance to diverge too widely from the *written* Burmese character. There is probably no language in the world where the letters offer so little clue to the pronunciation, where there are so many modifications of vocal sounds, and so much change, confusion, and euphonic variation of consonantal sounds, without any corresponding variation in the writing. If you want to represent the speech, you must altogether neglect the spelling, and *vice versâ*. No compromise is possible between the two.

But in a book with any scientific pretensions, due regard must be had to both the spoken and written character. Few languages can be of any real philological value until we know the symbols of which they are composed. Moreover, all the more civilized peoples of the province have borrowed their alphabet, their literature, and a considerable portion of their vocabulary, from the adjacent continent. They have generally altered the use and appearance of their acquisitions, so that, to enable us to trace their origin, these must be reattired in their original garb. On the other hand, for ordinary every-day purposes, the written or antique form of a language is practically worthless. What is wanted is some arrangement of letters which articulation renders intelligible with more or less completeness.

I have tried to secure both these ends by developing a

[1] I have seen the name of a large district in the Tenasserim Division transliterated in the following ways:—Shwegheen, Shwaygheen, Shwaygyen, Shwayghen, Shwegyen, Showegyen, and Showegyeen.

method which Dr. Hunter has made use of in his "Non-Aryan Languages," *i.e.* by giving two versions of every word, the *one as it is written*, the *other as it is pronounced.* The Burmese alphabet is simply one of the numerous modifications of the old Pali or Nagari type. In representing its individual characters I have accordingly used the English symbols which are now employed in every attempt at Indian transliteration. As a fact, they do not accurately give the present sound of the consonants of the second varga, and one or two other letters. But apart from the advantage of uniformity with the continental system, I am of opinion that this change in pronunciation has occurred within a comparatively recent date. In Father Sangermano's time, ဆ was certainly pronounced as 's' (as it is still by the Shans and Talaings), and ခ probably as the 'ch' in church. Thus he talks of 'swā' (to go), 'hansa,' 'mahasamata,' and 'Chepang' and 'Chittaun,' for 'Sagain' and 'Sittoung'; while Captain Latter mentions ဆ as the only sibilant in the language approaching to the sound of 's.' I have therefore made no change in the English equivalent so far as the written character is concerned, but in representing this or any other sound, the nearest English letter will always be employed.

The Burmese alphabet consists of 11 vowels and 32 consonants. They are as follows:

Consonants.					Vowels.	
k	kh	g	gh	ṅ	a	ā
c	ch	j	jh	ñ	i	ī
ṭ	ṭh	ḍ	ḍh	ṇ	u	ū
t	th	d	dh	n	e	ai
p	ph	b	bh	m	o	au
y	r	l	w	s	ui	
h	ḷ					

I may remark that the vowel 'ui' (or 'o' as it has hitherto been written) is generally described as a diphthong. It is no more of a diphthong, of course, than 'ai' or 'au.'

I have transliterated it 'ui' to represent its apparent components. It must be clearly understood that the above letters are no guide whatever to the pronunciation. They are simply intended to indicate the corresponding characters in our Indian alphabet, while, at the same time, they will enable any Burmese scholar to reproduce the exact vernacular combination they express. They represent in short the written language.

The spoken language may be roughly analyzed as follows:

First, the vowel sounds as above, a, â, i, î, u, û, e, ai, o, au, which are all to be pronounced according to the Hunterian method. Here again it is necessary to note that these symbols (especially the last three) afford no clue to the written character. The Burmese, in adopting the letters 'ai' and 'o' and 'au,' changed the first from the sound of the 'ai' in 'aisle' to nearly the sound of the 'ai' in 'hair,' and both the second and third from the vowel sounds in 'toll' and 'haus' to the vowel sound in 'aught,' pronounced more or less broadly. These new vocables will require fresh English symbols. I propose expressing the first by 'è' and the second by 'oa' (as in 'oar'). The appropriate English combination is manifestly 'au,' and it is a pity that, ordinarily, this is used to indicate a sound which 'au' more clearly represents. There is another vowel which I shall have to denote. It is a short 'e,' like the 'e' in 'met,' and will be, I think, best designated by the letter 'ĕ' with a diacritical mark. It may be objected that I have now got the letter 'e' to represent three different vowel sounds. But as a fact these sounds are not very divergent in Burmese. Most English students find it hard to discriminate between 'ê' and 'è,' and the latter vowel with an acute accent can scarcely be distinguished from 'ĕ.' 'Ai' is the prevalent method of expressing 'è,' but these characters, as I have just shown, are already employed in the Hunterian system. There is one more vocable in the Burmese which may be thought to require a distinguishing symbol. The letter 'w' before certain final consonants modifies the inherent vowel into a sound about midway between 'o' and 'u.' It is

usually transliterated 'oo' and 'u,' but both these forms are clearly exceptionable. The modification differs in no appreciable degree from 'u,' and this letter may be used accordingly.

Turning to the consonants we find the following sounds:

k	hk	g	ng
s	hs	z	ny
t	ht	d	n
p	hp	b	m
y	l	w	th, h and the compound ch and sh.

When the reader compares this with the foregoing table of the written characters, he will gather correctly enough that the Burmese make no distinction (1) between an aspirated and an unaspirated soft consonant, (2) between cerebrals and dentals, and (3) between 'y' and 'r.' He will notice also that I have had to prefix instead of affix the aspirate, to avoid confusion between 'hs' and 'sh,' 'ht' and 'th.'

I can now now give a full alphabetical table of the spoken language.

VOWELS.

a	as in	woman	ê	as in	rate
â	,,	father	è	,,	hair
i	,,	pin	o	,,	note
î	,,	pique	oa	,,	soar
u	,,	full	ai	,,	aisle
û	,,	mute	au	,,	sound
e	,,	met			

The consonants require but little explanation. 'ng' is a sound that cannot be exemplified; 's' and 'hs' are generally pronounced as if they were 'ts' and 'hts'; 'w' is occasionally slurred altogether, when its sequent vowel is modified into 'u'; 'ch' and 'sh' approximate to the sound in the English words 'church' and 'shame.'

I have made this paper as brief and clear as possible, in the hopes of provoking some criticism and discussion. The chief advantage of the method I suggest is its entire con-

formity with the Hunterian system, on the ground which the latter covers. To obtain this result some sacrifices have to be made when we pass beyond these limits; but the changes are few and not especially uncouth, and very little practice would make them natural and familiar.

The whole design differs in a very slight degree from that which has been adopted and uniformly practised by Sir Arthur Phayre, than whom no better authority could be cited on any subject connected with Indo-Chinese philology

ART. XI.—*On the Connexion of the Mōns of Pegu with the Koles of Central India.* By Capt. C. J. F. S. FORBES, of the Burmese Civil Commission.

AMONG the races now occupying the Indo-Chinese Peninsula, the oldest, the Mōn, has been little studied, and is generally passed over as an insignificant tribe of little interest in any way. Yet the facts which point them out as being the occupiers of the Delta of the Irrawaddy before the arrival of the Tibeto-Burman tribes, from whom they are quite distinct, seem worthy of consideration.

Although the Mōns are the oldest race now existing in the Peninsula, there is reason to believe that they had their predecessors. The earliest Mōn traditions state that when the Buddhist missionaries arrived on the coast, they were welcomed near Thatone, but were opposed and stoned by the Beloos when they attempted to land near Martaban. Close opposite Martaban is the large island called to this day Beloo-gyun[1] (Beloo Island). We know that Beloos (Monsters) was the name given to an aboriginal people whom the Mōn and Burman races found occupying the sea-coast. It may reasonably be conjectured that these aborigines belonged to some of the tribes now found on the Andaman or Nicobar groups. These last have been conjectured to be descended from refugees of the Mōn race themselves. F. A. de Roepstorff, the latest authority we have on these islanders, in his interesting monograph and vocabulary, and also in his remarks in the Journal of the Asiatic Society of Bengal, July, 1876, thinks they "are possibly the remains of a race of Mongolians, who were peaceably settled on the Nicobar Islands, cultivating the land, and perhaps in a higher state of civili-

[1] In the Mōn language, T'kaw 'k'mīng.

zation. They were perhaps attacked by the Malay race that is now living on the Nancowry group." This may be so; but, from the little known of them and their language, though there may be sufficient to connect them with the great family of Mongoloids, their affinity with the Mōns of Pegu is at present merely a conjecture unsupported by evidence.[1] That the Mōns found an aboriginal race in the country, and drove them out, is probable. Whence came the Mōns themselves? That they do not belong to the Tibeto-Burman family is clear and acknowledged. Two authorities, to whom great deference on this point is due, the late Dr. Mason and Sir A. Phayre, have adopted a theory which, as it appears to be gaining ground, demands examination.

Dr. Mason, in 1860, was the first to propound it. In his work on Burma, page 130, he writes: "In its vocables the Talaing (Mōn) is the most isolated language of Farther India. Its roots are not allied to Taï, Burman, Karen, Toungthu, Kyen, Kemu, Singpu, Naga, Manipuri, nor any other known language spoken by the Indo-Chinese nations. Nor is it cognate with the Chinese or Tibetian, or any of the Tatar tongues, of which specimens have been published. It is not related to the Sanskrit or Hindu families of Northern Hindustan; nor to the cultivated tongues of Southern India and Ceylon, the Telugu, Carnataka, Tuluva, Tamil, Malayálam, Malabar, and Singalese. I have compared the Talaing with vocabularies of all these and others, and find it radically different; though, here and there, words of apparently common origin may be discovered. Whence then has it been derived? In Central Hindustan there are several wild tribes inhabiting the mountainous regions, which are called Koles, Oraons, and Goands, whose languages seem to have had a common origin. The first notice of these people which I have seen was published by Major Tickell in 1840, in a paper on the Koles, whom he denominates Hos. This paper affords the most complete view of the people and their language that has yet been made public; and from this it is

[1] There is, nevertheless, a certain amount of resemblance to the Mōn in the vocabulary of the Nancowry dialect.

apparent, singular as it may seem, that the Talaing language has a radical affinity with the Kole. The first six numerals, the personal pronouns, the words for several members of the body and many objects of nature, with a few verbs, are unquestionably of common origin, while many other words bearing a more remote resemblance are probably derived from the same roots." (Then follows a list of words.)

"The Chinese, the Tai, the Burman, the Karen, and all the known languages of Farther India, including the Assamese, are known to use numeral affixes; while the Talaing language stands alone, and, like Occidental tongues, unites the numeral to the noun. Thus a Talaing says: 'ăkăbaing bà' two passages,' tnom pi' three stones, and 'sgni paun' four houses. While in Chinese, and in all the other Indo-Chinese languages, the numeral is united to an affix. The Kole has the same idiom as the Talaing. A singular noun in Kole is made plural by affixing *ko*, and, in Talaing, there is a plural affix *tau*. But what confirms still more the common origin for the Talaings and Koles is their name. One tribe among the Koles are called Oraons, who, at an unknown period, were driven by the Brahmanical Hindus from the neighbourhood of the Ganges. 'It is these Oraons,' writes Major Tickell, 'who first give us accounts of a people called Moondas, whom they found in possession of Chootia Nagpoor.' These Moondas now call themselves Hos, but are more generally known as Koles. *Moond*, their ancient name, is almost identical with *moan*, the name by which the Talaings now call themselves, and it would be difficult to find any two nations of a different origin with names so nearly the same."

Sir A. Phayre, in his "History of Pegu,"[1] follows Dr. Mason. He says: "That learned man has, in his work on Burma, pointed out the remarkable similarity between the language of the Mun of Pegu, and that of the Horo or Mundá people of Chutiá Nágpúr, called the Kols. The first syllable of the word Mundá, which is used, as I understand,

[1] Journal Asiatic Society Bengal, 1873, p. 35.

to designate the language of several tribes in the western highlands of Bengal, rather than as a tribal name, is identical in sound with the race name of the people of Pegu. The connexion of the two peoples, as shown by the similarity of their languages in a series of test words, has been commented on by the Honourable Mr. Campbell, in a paper on the Races of India, in the Journal of the Ethnological Society. We appear, then, to be forced to the conclusion, that the Mun or Taláing people of Pegu are of the same stock as the Kols and other aboriginal tribes of India who may have occupied that country before even the Dravidians entered it."

In the Journal of the same Society for 1876, Sir. A. Phayre repeats, and finds a confirmation of, this theory, in the resemblance between the stone implements found in Pegu and in Chutia Nagpúr, which will be considered separately.

Now let us examine the philological arguments adduced.

The coincidence of words in the two languages we shall leave for the present, merely remarking that the comparative tables given at the end will show equal, if not greater affinities to several other languages. With regard to any argument founded on the resemblance between the tribal names Mun and Mundá, we may observe that we find the tribal names Múndu used by the Man and Kamba, and Múntu by the Pokomo tribes in South Africa, according to Prichard, but we surely would not thence conclude any connexion between these latter and the Kolarians.

Max Müller truly says, "Grammar is the most essential element, and therefore the ground of classification in all languages which have produced a definite grammatical articulation." Again, "Languages, though mixed in their dictionary, can never be mixed in their grammar." Let us then compare the grammatical structure of the Mōn or Mūn, and the Kol or Ho languages.

The Mōn is exceedingly rough and guttural, abounding in a rolling sound of the letter *r*, and sudden abrupt checks in the pronunciation of words ending in a silent *h*.

The Ho language of Chutia Nagpúr is described thus: "The sounds are exceedingly pure and liquid, without strong

aspirates or gutturals, and in some words the inflections of the vowels are inconceivably complex and mellifluous."

Dr. Mason gives two points of Mōn grammatical construction, which he considers as showing its distinctness from the other languages of "Farther India," and its affinity to the Kolarian. The first is the *non*-use of numerical affixes, as in *signi* 'house,' *paun* 'four,' 'four houses;' *tnom* 'stone,' *pi* 'three,' 'three stones.' But in this the Doctor, who was not a proficient in the language, is entirely mistaken. The Mōn *does* use numeral affixes, though not to the same extent as its neighbour, the Burman, as is shown in the following examples: *mnĕh mooä sakoo* 'man one person,' or 'one man'; *katä mooä kätĕh* 'board one flat thing,' or 'one board'; *kaow pee doong* 'flower three blossoms,' or 'three flowers'; *pathoä paun t'nong* 'nails four long things,' or 'four nails.'

Secondly, that the Talaing (Mōn) has a plural affix *tau*, answering to the Kol plural affix *ko*. But the Burman also has a plural affix *tō*, pronounced *dō*, as *thoo-dō* 'they,' *loo-dō* 'men.'

The arguments on the affinities in these two cases are therefore worth little, and cannot counterbalance the strong evidence of divergence in most essential points of construction.

1. The Kol has a distinctive possessive particle marking the genitive case, as *sètá* 'a dog,' *sètá-á* 'of a dog'; *ho* 'a man,' *ho-á* 'of a man.' The Mōn has no genitive case affix, but denotes it by placing the thing possessed before the possessor, as *lat mnĕh* 'book-man,' for 'man's book'; *mee nyĕh* 'mother he,' for 'his mother.'

2. In Kol the adjective always precedes the noun, in Mōn the adjective always follows the noun to which it belongs.

3. In Kol the demonstrative pronoun, in like manner, *always* precedes the noun, while in Mōn it is generally a suffix, as *mnĕh wuh* 'man this,' for 'this man.'

4. The verb in Kol admits of conjugation in moods and tenses in the active and neuter. The Mōn has no inflexions of mood, tense, or number.

5. The Kol possesses three numbers, the singular, dual,

and plural; to which the pronouns add a fourth, the plural comprehensive. The Mōn has not the slightest trace of the peculiar dual number.

It seems almost impossible to consider two languages so widely apart in their structural character as capable of being brought into affinity with each other on the strength of a resemblance in a certain number of words in their vocabularies. A similar coincidence between words in Chinese and Anglo-Saxon English has been traced, but we must seek the explanation of this elsewhere than in affinity of race.

Nevertheless, Sir A. Phayre finds strong confirmation of this theory in the resemblance between the peculiar stone implements originally found in Burma and the Malayan Peninsula, but, lately also, discovered in Chutiá Nágpúr. He remarks in the Proceedings of the Asiatic Society of Bengal for January, 1876: "I observe in the Proceedings of the Asiatic Society for June, 1875, a paper by Mr. V. Ball, on Stone Implements of the Burmese type found in the district of Singbhúm. I beg to bring to your notice that the stone weapons hitherto sent from Burma have, I believe, all been found within the limits of the territory, in the delta and valley of the lower Eráwati, occupied from time immemorial by the Taláing or Mun people. The language of the Mun race of Pegu is connected with that of the Ho or Mundá people of Chutiá Nágpúr, called Kol. I beg, on this subject, to refer to my paper on the History of Pegu, in the Society's Journal, vol. xlii. of 1873.

"The form of the stone implements remarked on by Mr. Ball tends to indicate a connexion of race, or intercourse in prehistoric time, between the Kols and the Mun of Pegu. The supposed origin of these weapons, as thrown to earth in the lightning flash, is, as remarked by Mr. Theobald, the same among both peoples."

This argument is again referred to by Mr. Ball in the same Society's Proceedings for June, 1876, where he says: "Sir A. Phayre shows that the part of Burma in which the stone implements occur—the valley and delta of the lower Eráwati—is inhabited by a race called Mún, whose language

presents affinities with that of the Múndás of Singbhúm. Hence the probability of an early intercourse having existed, and possibly of an identity of origin, between these now widely-separated peoples, becomes very great."

Now to carry out Sir A. Phayre's argument, we must allow the premiss, either that the Múns and Mundás are the autochthones of Pegu and Singbhúm, or that there is reason to believe that the ancestors of these peoples used stone implements when they migrated into their present localities.

With regard to the Mundás of Singbhúm, we *know* that they are not autochthonous, for the Bhooyas or Bhooians occupied the country before them. We have certainly no *proof* of who were the predecessors of the Múns in Pegu, but there is every reason to believe that they found an aboriginal race before them.

There is little, if any, cause to suppose, according to the second premiss, that the ancestors of the Múns, or of the Mundás, were among the races who employed stone implements, at the period when they arrived in their present localities. The probability is to the contrary. Both races possess words for iron original to their languages, and not borrowed from their neighbours, and with our knowledge of the constant waves of migration that swept over Eastern lands in the prehistoric times, it appears far too arbitrary an assumption that neolithic implements belong necessarily to the variety of the human species now occupying the locality in which they are found.

The remark respecting the similar origin ascribed to these implements by both peoples is not of much value as an argument in point, for we find the same idea prevailing in England, in Brittany, in Finnland, in Japan, and other countries.[1]

There really, then, is no proof that the stone implements found in Pegu and Singbhúm were fashioned or ever used by the early Múns and Kols inhabiting those districts, and not by some still earlier primæval races, perhaps of the Negritto family.

[1] Tylor, Early History of Man, p. 226.

But although there is no ground for believing in a race connexion between the Mōns of Pegu and the Kolarian races, it does not follow that there may not have been a prehistoric intercourse between them. The former idea has been carried to its fullest development in the Official Report on the Imperial Census of British Burma in 1872, where it is stated that "the Talaing nation appears to have been formed from two distinct stocks, both starting from India, and uniting into one people at Burma. The name Talaing is supposed to be merely a reproduction of Telinga or Telingana, and the people to whom the name was primarily applied are taken to have been Dravidian colonists who came over by sea and settled at Thatun. . . . The other, and probably more numerous stock, are believed to be identical with the pre-Aryan Kols of Central India, and call themselves Múns."

Dr. Logan appears to present the most reasonable view of the subject. "The first migration from the northern side of the Himalaya is now best represented by the Anam, Kambojan, Mōn, and Lau tribes. Their languages have structural and glossarial characters which distinguish them from the Tibetan, and, in the first era of their southern dispersion, they must have occupied a part of Bengal, and had a close intercourse with aboriginal Indian tribes of the north-east Dravidian or Kol family. At a later period they were intimately connected with the succeeding great migration from Tibet, that of the proper Tibeto-Burman tribes, but appear to have been gradually pressed by them to the eastward and southward. . . . Two thousand years ago the Chinese found the Anamese in possession of the basin of the Sang-koi." "The Mōns long preceded the Siamese in the Tenasserim provinces, and the languages of the Simang and Binna of the Malay Peninsula retain deep traces of their ancient influence to the south. Before the great southern movement of the Lau, the Mōn appear to have occupied the basin of the Menam also, and to have marched and intermixed with the closely-allied Kambojans of the Lower Mekong."[1]

[1] Journ. Ind. Arch. vol. ii. pp. 70, 76.

The actual routes of the successive migrations of branches of the human race in the earliest times must ever be a matter, more or less, of mere speculation. At the same time, physical geography points out to us prominently three great lines eastward along which the masses must have moved; viz., one over the passes of the Thian Shan, along the great highway of Chinese Tatary, across the Desert of Gobi, into China Proper: the second, over the Karakorum range into the Valley of Kashmír, and thence into Tibet: the third, through the Khyber Pass into the Valley of the Indus.

The Chinese, and probably the Karens, seem to have followed the first, but, according to the earliest Chinese annals and traditions, they found aboriginal tribes, the Miau, Lo Lo, and others before them.

The Mōn-Anam races, to use Logan's term, appear to have taken the second route, through Tibet, debouching into the Upper Valley of the Brahmaputra, and, thence, spreading at an unknown date eastwards into Farther India as far as the Gulf of Tonquin, probably pressed on by their cousins, the Tibeto-Burman tribes, following the same course. This, of course, must remain a mere conjecture, but, if we allow a sojourn more or less extended in the valley of the Brahmaputra to the early progenitors of the Mōn-Anam races, the intercourse between them and those Kolarian tribes who once occupied Bengal is accounted for.

The relation of the Mōn-Anam languages to each other, and their divergence from their neighbours, is shown in their structure even more than in their vocabulary.

1. The Mōn, Siamese, and Annamitic are agreed in the use of prefixed case particles (prepositions), while all the Tibetan dialects adopt suffixes (postpositions). The Chinese employs suffixes to mark the locative case, but prefixes in the others. The Karen also employs prepositions throughout.

2. The Mōn, Siamese, and Annamitic are distinguished by the inverted form of the genitive, that is, the thing possessed precedes the possessor, as *house man;* in Chinese, Karen and Tibeto-Burman, the natural order, *man's house*, is followed.

3. The Mōn, Siamese, Annamitic, and Karen agree in the postposition of the demonstrative, while the Chinese and Tibeto-Burman place the pronoun before the substantive.

4. The Tibetan languages are, above all, distinguished from the Chinese and East Himalayan, or Mōn-Anam, by the great inversion of the sentence in which the verb comes after its object.

It is thus seen that while the Mōn, Siamese, and Annamitic dialects all accord with each other on these important structural points, they differ with the Tibeto-Burman in *all*, and with the Chinese and Karen in some, while they agree in others. We are, therefore, apparently warranted in classing the former languages under a separate head, and, from their structure, awarding them a date anterior to any of their present neighbours.

When, however, we come to compare the vocabularies of all these races, we find affinities that can be accounted for only on the ground of intimate connexion and intercourse at some period of their history in their present localities, or by the theory that they formed, in a prehistoric time while still settled in their original Western home, one family speaking a common tongue, before each in its turn quitted the primæval hive on its Eastern migration. There is no doubt the Mōn, the Burmese, the Siamese, the Karen, have, to a certain extent, mutually influenced each other by contact and intercourse in their present abodes; but we cannot conclude the same of the Mōn with the Chinese and pure Tibetan dialects, and must therefore refer the coincidences between these to a common radical origin—calling this Turanian, Mongolian, or what you will.

ART. XII.—*Studies on the Comparative Grammar of the Semitic Languages, with Special Reference to Assyrian.* By PAUL HAUPT.

THE OLDEST SEMITIC VERB-FORM.

WHEN we consider the progress made by comparative Indo-European philology, we can only wonder that even after the discovery of Assyrian, which undoubtedly represents the Sanskrit of the Semitic languages, no attempt has been made to form a comparative Semitic grammar. Assyrian has hitherto been regarded as at most useful for the explanation of certain questions of Hebrew lexicography; as for the morphology of the Semitic tongues, scholars have been content with simply stating the analogies which exist between Assyrian and the allied languages. The cause of this lies mainly in the fact that Assyrian is regarded as a corrupt branch of the Semitic family of speech; and much that is peculiar in its structure, the preservation of which really implies the highest antiquity, is treated as so many new formations, so that the possibility of properly utilizing Assyrian grammatical forms for the explanation of Semitic grammar is at the outset taken away. Hence, as long as such thoroughly perverse views are not given up, a scientific philology of the Semitic languages can never take its place by the side of that of the Indo-European languages.

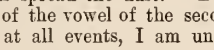
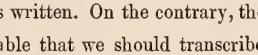
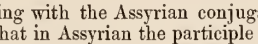
Before all else it is needful distinctly to state and demonstrate that Assyrian is in truth the Sanskrit of the Semitic family of speech, as E. Hincks and A. H. Sayce have already clearly recognized.

This fact ought of itself to indicate that Assyrian is the oldest Semitic language of which we know. In spite of this high antiquity; in spite, too, of its being specially character-

ized by the fixity that distinguishes the Semitic languages; it is just of Assyrian that such a linguistic decay—such a loss of the original features of Semitic speech—has been asserted, that an Indo-European scholar would look suspiciously on a statement like the above when made by the Semitic philologist, and ask doubtfully: "How can this fit together? The Assyrian language, we are told, is an old one, in fact the oldest Semitic dialect with which we are acquainted; and yet the Perfect, which has been so richly developed in all the sister-idioms, has already disappeared, without leaving a trace behind, in the earliest monuments of Assyrian literature!"

"The Passive forms, again, with internal vowel-change, have been completely lost, with one exception which is itself extremely uncertain,[1] and replaced by Reflexive forms—Reflexive forms, be it observed, which are always older and more original than Passive forms, as a glance at the development of the Passive in the Indo-European languages will inform us."

"Assyrian, moreover, it is said, agrees in a very remarkable manner with Ethiopic, which, though separated from it at so early a period, has accidentally lighted upon the creation of exactly the same Imperfect form (*yĕnágĕr*, *iqátal*); in Ethiopic, according to the usual view, in order to compensate for the modal forms with final vowels preserved in Arabic (*yaqtulu*, *yaqtula*, *yaqtul*, or rather *yaqtuli*);

[1] Passages like W. A. I. iv. 16, 67 *b*,  *kima labîri-šu šâ-ṭir* 'like its original written,' may perhaps lead us to claim for Assyrian a passive participle of the form *qatîl*, closely corresponding to the Aramaic *qĕtîl*. With equal justice we could also claim the correspondence of a form *qatûl* with the Hebrew pass. part. קָטוּל; cf. W. A. I. iv. 31, *Obv.* 11: "over door and bolts (of the underworld)  *ša-pu-uḫ ip-ru*, is spread the dust." Both forms, however, are very uncertain, since the length of the vowel of the second syllable has not yet been proved by *scriptio plena*; at all events, I am unacquainted with any passage in which  is written. On the contrary, the reading *šá-ṭir* makes it more probable that we should transcribe, not *qatîl* and *qatûl*, but *qâtil* and *qâtul*. In dealing with the Assyrian conjugation in a future publication, I hope to point out that in Assyrian the participle passive and the participle active are not yet sharply distinguished from one another.

in Assyrian, in order to compensate for the loss of the Perfect."

Unfortunately, however, this so-called new formation, the Imperfect, occurs by no means rarely with final vowels in Assyrian, forms like *iqátala* being common enough; while in Ethiopic, unhappily for the ordinary explanation, the Perfect, whose loss in Assyrian would have occasioned this so-called new formation, is found richly developed.

Hence it follows plainly that both views are false, and the assumption of a new formation can be justified upon no satisfactory ground.

Instead of assuming that two languages, so far removed from one another, the one in the extreme north, the other in the extreme south of the Semitic region, should yet have both hit upon one and the self-same new formation in the earliest period known to us, and with a most remarkable, though accidental, uniformity of action, it is certainly much more natural to believe that where the Assyrian and Ethiopic agree in forms (and words), we are dealing not with new formations which have accidentally assumed the same appearance, but with the primitive possessions of the Semitic family of speech. We therefore maintain:

1. The Assyrian Present (*iqátal*) and the Ethiopic Imperfect (*yĕqátĕl*) are no new formations, but the oldest verbal forms of the Semitic family of speech.

2. The common Semitic Perfect is a new formation from the participle, which has not yet been developed in Assyrian into a stereotyped tense. The Assyrian has not lost it, a few traces of it excepted; on the contrary, these apparent vestiges of its former existence are really the fresh nucleus of a form the growth of which we can watch.

3. Similarly the Passives with internal vowel-change have not been lost in Assyrian, but are not yet developed. Here, too, we may clearly discover the first beginnings of a new form which owes its origin to an arbitrary differentiation.

4. Assyrian is the Sanskrit of the Semitic idioms, Ethiopic ranking next to it in point of antiquity.

If these four axioms can be satisfactorily established, the

whole structure of Semitic morphology, constructed, as it has been, with so much pains, will be simply overthrown, and a thorough revision of Semitic philology, and therewith of all Semitic grammars, will have to follow. Here, again, Assyrian, to which we owe our recognition of these facts, introduces a new epoch in the study of Semitic speech.

But even without the help of Assyrian, scholars ought long ago to have seen that the Ethiopic Imperfect (*yĕnágĕr*, ይነግር:) is no new formation from the Subjunctive (*yĕngĕr*). The mere comparison of the two forms (*yĕnágĕr* and *yĕngĕr*) ought of itself to have convinced every scientifically trained philologist that here, as generally elsewhere, the fuller formation is the oldest, and that the shorter form *yĕngĕr* must have been derived from the longer *yĕnágĕr*. Not a single difficulty stands in the way of such a conclusion, since *yĕnagĕr*, or rather *yánagar* (as it was originally pronounced), easily becomes *yángar*, *yĕngĕr*; and later—when the fine instinct of language came to set apart the fuller form for the expression of the Present, the weaker for that of the Preterite—*yĕnágĕr* would have been preserved in order to mark distinctly the difference of meaning which had come to be felt.

If, on the contrary, *yĕnágĕr* is explained according to the current view, as derived from *yĕngĕr*, we must assume, with Dillmann, that the differentiation of moods, carried out with such consistency in the literary Arabic dialect (*yaqtulu*, *yaqtula*, *yaqtul* or rather *yaqtulī*), was once found in Ethiopic also, where, however, all three forms subsequently coalesced in one (*yaqtul* = *yĕngĕrĕ*, *yĕngĕr*). But this hypothesis, even apart from any other consideration, is at once made highly improbable by the following fact. Had Ethiopic created a new form, and that, too, a form of a very definite character, there must have been a need of it, and therefore also a living consciousness of the difference between the moods. But if the language felt it necessary to express such modal differences, it could never have come about that the phonetic characteristics and the symbols of the moods would have disappeared entirely instead of being still more distinctly

marked,[1] and that afterwards, just as if the language had capriciously determined that the old forms no longer suited it, a new form have been created, which distinguished the moods one from the other far less clearly than the forms which had been allowed to perish.

The only possible alternative would be to assume that Ethiopic originally possessed a keen sense of the distinction between the moods, then lost it some time afterwards, but eventually recovered it. Such an alternative, however, though the only possible one, is as good as none; at all events it cannot claim to be regarded as a scientific hypothesis.

These considerations, even without the aid of Assyrian, must have led us to recognize that the Ethiopic Imperfect (*yĕnágĕr*) is no new formation from the Subjunctive (*yĕngĕr*), but rather the form out of which the Subjunctive has grown.

If, however, *yĕngĕr*, or rather *yaqtul*, already belongs to the parent Semitic speech, *yĕnágĕr*, or rather the Assyrian *iqátal*, must have belonged to it in a yet higher degree. This conclusion finds its most complete confirmation in the fact that Assyrian and Ethiopic agree in having the form with an accented *a* after the first radical, and, I repeat, cannot be based on a mere accident, but must go back to primitive Semitic influence.

In this way the theory that the Perfect in Assyrian has disappeared in the oldest literary monuments, without leaving a trace behind it, is still further shaken, or rather utterly upset; for, as we have already seen, from the point of view of scientific philology, it can only be called monstrous. In retaining *iqátal* among its verbal forms, Assyrian shows signs of the greatest archaism; how then could we explain the entire loss of the Perfect *qatala*, which occupies so prominent a place in the allied languages, and has hitherto been regarded as the starting-point of the conjugation, although Assyrian presents such a fixity of type that we cannot point to the slightest change which the language has undergone in

[1] *Yengeru*, *yengera*, *yengeri*, would perhaps have become *yengerû*, *yengera*, *yengerí*, as *labaska*, *labaski*, *labasku*, have become *labaska*, *labaski*, *labaskú*.

the course of centuries?[1] The supposition is simply impossible.

If, now, Assyrian can never have lost the Perfect, and yet does not possess one, it is clear that the common Semitic Perfect of the cognate dialects must be of later formation, and indeed later than the verbal forms found in Assyrian, —later, that is, than the Imperative, Infinitive, and Participle, and, above all, later than the Present and Imperfect.

Since, further, as we have seen, *yĕnágĕr* cannot have grown out of *yĕngĕr*, but, conversely, *yĕngĕr* is shortened from *yĕnágĕr*, *yĕnágĕr* or *iqátal* must be the oldest real form of the primitive Semitic verb.

These conclusions, necessarily following, as they do, one upon the other, are of themselves quite sufficient to show the facts of the case. They can, however, be supported by three important arguments.[2]

(1). The identity of the vowels in the forms of the Arabic Perfect, when contrasted with their variety in the forms of the Imperfect, indicate clearly the greater antiquity of the latter. All forms of the Perfect in Arabic, which is decidedly most primitive in the matter of vocalization, have the same vowel *a*: *qatala*, *qattala*, *aqtala*, *taqattala*, etc. Here, then, we have a thorough-going regularity which points to the secondary action of analogy. When, however, we come to contrast the manifold variety of the forms of the Imperfect (*yaqtul*, *yuqattil*, *yuqtil*, *yataqattal*) with this monotonous uniformity of the forms of the Perfect, every scholar who has the smallest tincture of the spirit of scientific philology must at once adjudge the palm of antiquity to the Imperfect.

(2). In Arabic we have *inqatala* as Perfect of the seventh conjugation, with Imperfect *yanqatilu*, *iqtatala* in the eighth conjugation with *yaqtatilu*, and *istaqtala* in the tenth conjugation with *yastaqtilu*. Now if the Perfect went back to the Parent-Semitic, these three forms ought plainly to have been *naqatala*, *qat-tala* (more clearly *katbala* قَتْبَلَ; cp. the forms with inserted *t* in Assyrian), and *sataqatala*, which could

[1] The only exception that could be quoted would be the older form *êpašu*, which once occurs in an inscription of Tiglath-Pileser, instead of the usual *êpišu*.

[2] A fuller statement of the points briefly noted here in outline, which is quite sufficient for all who are acquainted with the questions discussed, will be given in three monographs, one on *The Inner Flection*, a second on *The Growth of the Semitic Conjugations*, and a third on *The Assyrian Permansive*.

become either *sataqtala* or *satqatala*. But how then are we to explain the forms of the Perfect above quoted, how could *inqatala*, etc., originate from *naqatala*, *naqtala* (cf. נִקְטַל)? All this only becomes clear, when we regard the Perfect as younger than the Imperfect. From *yánaqatala* we could easily get *yánqatala*, and then *anqatala*; from *yaqatabala*, *yaqtabala* and *iqtabala*; from *sataqatala*, *yasataqatala*, *yastaqtala*, *astaqtala*, *istaqtala*.

Still more convincing are Arabic forms of the Perfect like *ittabbata* (اِتَّبَّتَ), instead of *tatabbata*. How *ittabbata* can come from *tatabbata* is utterly unintelligible. Quite clear and simple, on the other hand, is the following series of phonetic changes: *tatabbata*, *yátatabbata*, *yattabbata* (يَتَبَّتَ), *yattabbata*, *ittabbata*.

(3). The so-called Permansive forms in Assyrian, hitherto held to be the remains of the common Semitic Perfect, furnish the third argument. These "remains," however, show a greater originality and power of creating new forms than does the common Semitic Perfect of the allied languages, whose relics they are supposed to be; while the common Semitic Perfect is a narrowly defined and stereotyped agglutination of participle and suffixed personal pronoun, the Assyrian has the power not only of creating the so-called Permansive by agglutinating participle and pronoun together, but of using any noun, be it substantive or adjective, for the purpose, by simply attaching to it the pronouns. The Assyrian could not merely say *kabdaku* 'I am glorious,' *išâku* 'I possess' (formed from the participle of the verbs כבד and ישה by suffixing the personal pronoun), but also *šarraku* 'I am king,' *gišraku* 'I am bold,' from the adjective *gišru* 'bold.'

If these formations, however, surpass the common Semitic Perfect in capacity of development, they cannot be merely its relics. The Permansive forms are no decaying formations, but formations just growing up, one of which afterwards displaced the others, so that only the stereotyped agglutination of participle and personal pronoun remained, out of which the common Semitic Perfect developed itself.[1]

[1] Others have indeed maintained that this form, first established by E. Hincks and A. H. Sayce, has nothing to do with the Semitic Perfect. Fr. Lenormant, in his *E'tudes sur quelques parties des Syllabaires cunéiformes*, p. 20, note 4, says: "Je reviendrai ailleurs sur le temps particulier du verbe assyrien, formé du participe, auquel Hincks a donné le nom de *permansif*; ce temps existe très-réelle-

All this teaches us that the Perfect is a secondary formation, and that the Ethiopic Imperfect, or rather the Assyrian Present, represents the oldest form of the Semitic verb. This fact, like so many other new discoveries, has been made known to us by Assyrian, which casts fresh light on all the spheres of research on which it touches, extends the limits of grammatical investigation in the Semitic languages, and like Sanskrit in the Indo-European family of speech, is destined to become in a few years the indispensable preliminary and necessary foundation of all really scientific study of the Semitic group of tongues.

NOTE ON THE TENSES OF THE SEMITIC VERB. By A. H. SAYCE.

There is one point in Mr. Haupt's striking article with which I am unable to agree, and that is the statement that *yánager*, with the accent on the first syllable, was the original pronunciation of the form which afterwards developed into the Assyrian Present. My investigations into Semitic accentuation have led me to the conclusion that the regular throwing back of the accent in Arabic is as much a departure from the primitive rule of accentuation as it is in Latin or the Æolic dialect in Greece. The primitive Semitic accent was on the penultima; possibly, at a still earlier time, on the ultima. Assyrian and Ethiopic agree most remarkably in their rules of accentuation; and as the accent in a large proportion of cases is preserved in both on the penultima, we should have a further confirmation of Mr. Haupt's opinion that these two languages are the most conservative and archaic of the Semitic tongues. But there are traces even in our present Old Testament text that the position of the

ment, mais c'est à tort, que les savants de l'école anglaise ont voulu le comparer au prétérit des autres langues sémitiques; il trouve son élement de comparaison et son explication dans certains emplois du participe à l'expression du présent dans les dialects araméens." If Lenormant does not forsake this point of view, his work must be condemned beforehand as undertaken in vain. The Assyrian Permansive closely corresponds with the Ethiopic Perfect, especially with that of the intransitive verbs. Were Lenormant right, our argument would have been a mere waste of time: but a simple glance at the following paradigms is sufficient to show that he is not:—

	Assyrian.		Ethiopic.
3 m	šakna (šaknu).		labsa.
3 f.	šaknat.		labsat.
2 c.	šaknat.	*Heb.* שכנת, *Eth.*	labaska.
1 c.	šaknaku.		labaskû.
3 m.	šaknû.		labsû.
3 f.	šaknâ.		labsâ.

How Lenormant will explain *šaknâ* from his Mishnite forms is to me incomprehensible. The "savants de l'école anglaise" are decidedly right.

accent in Hebrew also was once the same. Several reasons make me believe that the case-endings (*-u*, *-i*, *-a*) were still pronounced in Hebrew at the time when the majority of the books of the Old Testament were written down, but although final were not expressed in writing in consequence of their short quantity. Thus on Egyptian monuments as late as the period of Shishak names of places in Palestine, which end in a consonant in the Masoretic text, have *u* final, *e.g.* נגבו = *Negeb*, בעלו = *Baal*. Even in Nehemiah (vi. 6), we find *Gashmu*, which is elsewhere written Geshem (ii. 19). The first part of a compound proper name, again, sometimes preserves in writing the final vowel-ending, as פנו־אל, בתו־אל, חמו־אל (I. Chr. iv. 26).[1] Hence the Masoretic accentuation of Hebrew words will not have its origin in the necessities of monotone, but be a survival of the primitive accent which fell upon the penultima, when the case-terminations were still pronounced.

Mr. Pinches has pointed out to me two new passages which complete our knowledge of the forms of the Assyrian Permansive. One is to be found in K. 575, line 27 (?), where we read *râ a-na-cu ina eli la sa-as-lu-dha-cu* 'and I moreover do not cause to rule,' *sashudhacu* being the first person Sing. Permansive Shaphel of שלט. The other occurs in K. 186, where, after the proper names *S'a-pi-cu*, *A-ka-na*, *La-ba-si*, *Za-kin-ta*, and *S'in* (*sam-ma khansa* 'five in all'), we have D. P. *Da-ra-ta-ai ma-a a-ni-ni* 'natives of Dara, as aforesaid, (are) we,' and then in the next two lines *na-tsa-ni* 'we are gone forth,' and *ni-ic-śa-a-ni* 'we are cut off,' where *natsāni* and *nicśāni* are first persons plural of the Permansive, agreeing in form with the hypothetical forms I have proposed elsewhere. The discovery of the plural of the first personal pronoun is important, as the second character is unfortunately obliterated in the only passage in which it has hitherto been met with (Beh. i. 3). It will be noticed that Assyrian has lost the guttural aspirate (ח) in the word, as is so frequently the case, and has weakened *a* to *i* according to the usual rule.

[1] Up to the time of Assur-bani-pal, Hebrew proper names are written on the Assyrian monuments with the final vowel attached. Thus, Hezekiah is *Khazakiyāhu*, Ahab is *Akhabbu* (i.e. *Akhábu*), Jerusalem is *Ursalimma* (i.e. *Ursalima*), where the position of the accent must be noted. Conversely, Assyrian proper names, which have a final vowel in the inscriptions, are written defectively in our present Hebrew text. Thus *S'inu-akhi-'erba* appears as סנחריב, *Babilu* as בבל, the *Turtanu* as תרתן.

Art. XIII.—*Arab Metrology. II. El-Djabarty.*

By M. H. Sauvaire.

A year ago I had the honour of introducing to the Society M. Sauvaire's translation of Mar Eliyá's treatise on weights and measures, which appeared in Vol. IX. pp. 291–313 of the Journal. In the notes to that work reference was frequently made to the treatise on the Balance by Ḥasan El-Jabartí. Since then M. Sauvaire has completed a translation of a portion of the treatise, and has entrusted to me the agreeable office of presenting this new contribution to the Society.

The present translation consists entirely of that part of El-Jabartí's work which treats of the various values of the measures of weight employed in Muslim countries, and the modes of converting weights expressed in the terms of one place into those of another. The extract occupies fol. 34–45 of the MS., which is preserved in the Bibliothèque Nationale at Paris; the rest of the MS., which in all contains only 48 folios, is concerned with a distinct subject—"L'auteur y étudie," M. Sauvaire writes, "la composition de la *romaine* (قَبَّان), énumére les divers éléments dont cet instrument se compose en en donnant la description, et indique même les moyens d'en corriger au besoin les défectuosités." I am happy to say that M. Sauvaire hopes at a future time to accomplish the translation of this other portion of the work, and thus to present El-Jabartí's El-'Iḳd eth-themín, or "High-priced Necklace," in its entirety. In the mean time the portion now offered to the Society is sufficient, both in importance and in length, for one article in the Journal.

Belgrave Mansions, S.W.
Jan. 23, 1878.

Stanley Lane Poole.

العقد الثمين فيما يتعلّق بالموازين

Le Collier de prix touchant ce qui concerne les balances. Par le Cheikh Ḥasan el Djabarty. MS. arabe de la Bibl. nationale, Supplément, No. 985, fo. 34*v.* à fo. 45*v.*

TABLE DES VALEURS EN DERHAMS

Mesry (de Mesr) Derhams 144	Ratl Siwâsy (de Siwâs) Derhams 1440	Baysâny (de Baysân) Derhams 900
Châmy (Syrien), Tarâbolosy (de Tripoli) et Démachqy (de Damas) Derhams 100 (lisez 600)	Ramly (de Ramleh) Derhams 743 [3]	Halaby (d'Alep), Hamawy (de Hamâh) et Ma'arry [4] (de Ma'arrah) Derhams 720
Démyâty (de Damiette) Derhams 330	Layty Derhams 200	Qonawy [5] (d'Iconium) Derhams 150
Antâky (d'Antioche) [7] Derhams 1560	La Ladrah Derhams 176	Maghréby (du Maghreb) Derhams $127\frac{1}{7}$
Djazîry (du Djezîreh, Mésopotamie) Derhams 162	Maymoûny Derhams 168	'Akkâwy (d'Acre) Derhams [950] [8]
La Ladrah Derhams [171] [8]	Le mann, deux ratls de Bagdâd Derhams $[257\frac{1}{7}]$ [8]	Qostantîny (de Constantine) Derhams [158] [8]
Bédjâwy (de Bédjâyah, Bougie) Ratls Mesrys 33 [10] Derhams [4752] [8]	Istâmboûly (de Constantinople) Derhams [876] [8]	El Frânsyah (la France?) et les Zendj ! [11] Derhams [128] [8]
Ghîlâny (du Ghîlân) [13] Derhams [2] [180] [8]		

[1] En marge : Le Lakhmy ? le Khatkâry ? et (le ratl) des habitants de Mérou, derhams 2400(7).

[2] On peut comparer avec le tableau le traité des poids et mesures d'Eliyâ, Archevêque de Nésibe, dont la traduction a été publiée par la *Royal Asiatic Society of Great Britain and Ireland*, juin 1877.

[3] Le MS. du Caire porte 742.

[4] Le MS. du Caire porte el Ghazzy. mais je crois que c'est une erreur de copiste.

[5] MS. du Caire : El Fayyoûmy (du Fayoûm).

[6] Le MS. du Caire port avec raison 130.

DES RATLS DE DIFFERENTS PAYS.

'Adjloûny (d'Adjloûn), Osioûty (de Sioût), Tahlâwy et Tahtâwy Derhams 1000	Mahally (de Mahallah) Derhams 400	Qodsy (de Jerûsalem) Nâbolosy (de Naplouse), 'Âtéky et Ba'lbakky (de Ba'lbek) Derhams 800
Foûwy (de Foûwah) Derhams 360	Djarouy (*Gérouin* d'Abot de Bazinghem) Derhams 312	Samanoûry et Samandary (de Samandar) Derhams 300
Baghdâdy (de Bagdad), suivant l'approbation d'Abou Ishâq 1200 (*sic*) [6]	Dâhéry Derhams 480	Tahâwy (de Tahâ) [1] Derhams 1200
Istâmboûly (de Constantinople) et Roûmy (du pays de Roûm) Derhams 176	Tarâbolosy (de Tripoli) Derhams 630	Bondoqy (de Venise) Derhams 102
Roûmy (du pays de Roûm) Derhams [102$\frac{2}{7}$] [8]	Baghdâdy (de Bagdad), suivant l'approbation d'En-Nawawy Derhams [128$\frac{4}{7}$] [8]	Qalcy et Folfoly Derhams [150] [8]
Azroûmy et Djoûzy [9] Derhams [320] [8]	La rotaylah (petit ratl) pour le pesage de la soie Derhams [225] [8]	Fâsy (de Fès), Télemsâny (de Tlemsen) et Toûnésy (de Tunis) Derhams [160] [8]
La ladrah [12] Maghréby (du Maghreb) Derhams [133$\frac{1}{3}$] [8]	Le mann Hédjâzy (du Hedjâz) [Derhams 260] [8]	Le mann Yamâny (du Yémen) Derhams [10008] [8]

Dans le MS. du Caire, on lit en marge du tableau :
"Nous avons vu dans l'énoncé d'une opinion émise par les Cheikhs que le *rotaylah* est de deux cent vingt-neuf derhams et demi. Ainsi : Derhams 129$\frac{1}{2}$."

[7] Le MS. du Caire port entre le Tahâwy et l'Antâky : Le Lakhmy, le Khankâry (ou Khankâdy) et (celui) des habitants d'El 'Orfah, derhams 2400.

[8] MS. du Caire.

[9] Le MS. du Caire écrit : ? الازروحى والجزرى.

[10] MS. du Caire, qui ne fait aucune mention des ratls mesrys, 33×144 = 4752.

[11] Le MS. du Caire corrige heureusement en "El Fransah (la France) et El Afrandj (les Francs).

[12] Le MS. du Caire écrit لدة pour لدرة.

[13] Faudrait-il lire El Fîlâny (de Fîlân) ? Voy. Marâsed ii. p. ٣٧٣.

[fo. 35*r*.] Quand tu connaîtras que la diversité des ratls dans les différents pays n'a d'autre cause que le nombre variable, en plus ou en moins, de leurs derhams et de leurs metqâls, tu sauras que le poids *(meqdâr)* du derham et (celui) du metqâl n'ont jamais éprouvé de variation, ni du temps du paganisme, ni depuis l'établissement de l'islâm ; c'est là en effet une opinion unanimément admise.[1]

Le derham se compose de soixante *habbah* (grains), chaque *habbah* équivalant à soixante-dix graines *(habbah)* de moutarde sauvage de moyenne grosseur. Le metqâl se compose également de soixante *habbah* (grains) ; mais chaque *habbah* équivaut à cent graines de la dite moutarde. En conséquence chaque dix derhams égalent sept metqâls. Ainsi se sont explicitement prononcés le grand savant Es-Saroûdjy,[2] dans le *Ghâyat el bayân*,[3] commentaire sur la *Hédâyah ;* le grand savant Ebn er-raf'ah,[4] dans son traité intitulé *El ifsâh wa et-tébyân fi ma'rafat el mekyâl wa'l mîzân ;* le grand savant Es-Soyoûty,[5] dans son traité qui a pour titre *Qat' el moudjâdalah 'end taghyîr el mou'amalah ;* le grand savant El Maqrîzy,[6] dans son traité appelé *En-Nobdah ;* le grand savant le cheikh Qâsem le hanafîte, connu sous le nom d'Ebn Qotloboghâ[7] et

[1] Comp. Maqrîzy, *Traité des monnaies musulmanes*, traduction de S. de Sacy, p. 10.

[2] Chams ed-dyn Abou'l 'Abbâs Ahmad ebn Ibrâhîm ebn 'Abd el Ghany es-Saroûdjy (de Saroûdj, v. de la Mésopotamie) naquit en l'année 637 (comm. 3 août 1239) ou 639 ; il mourut au Vieux-Caire le 12 radjab 710 (comm. 31 mai 1310). Voy. Flügel, *Die Classen der Hanef. Rechtsgel.*, p. 327 ; *Tâdj et-tarâdjem* d'Ebn Qotloboghâ, MS. de ma coll., fo. 25*r*, et *Raudat el qoloûb* d'Ech-Chîrâzy, do., fo. 3*r*.

[3] *Ghâyat el bayân wa nâdérat el aqrân*, tel est le titre complet d'après Hâdji Khalîfah, éd. Flügel, iv. p. 299, No. 8512 ; voy. également vi. p. 482.

[4] Ebn er-raf'ah (Nadjm ed-dyn Ahmad ebn Mohammad), né à Mesr, Châfé'îte, mourut en l'a. 710 (comm. 31 mai 1310). Hâdji Khalîfah, qui cite plusieurs de ses ouvrages, ne fait pas mention de la *résâlah* dont il est question ici.

[5] Djalâl ed-dyn 'Abd er-Rahman ebn Abî-Bakr es-Soyoûty (de Sioût), mourut en l'année 911 (comm. 4 juin 1505). Son traité est mentionné par Hâdji Khalîfah sous le No. 9544. Ce bibliographe nous apprend que l'auteur l'a inséré dans son *Hâwy*, qui contient quatre-vingt-deux traités sur les *fetwas* les plus importants rendus par lui.

[6] Taqy ed-dyn Abou'l 'Abbâs Ahmad ebn 'Aly el Maqrîzy, Châfé'îte, mourut à Mesr (Vieux-Caire) en l'a. 845 (comm. 22 mai 1441). Cet auteur est célèbre par ses nombreuses compositions et surtout par son grand ouvrage de la description de l'Egypte. Hâdji Khalîfah paraît faire mention de la *Nobdah*, quand, sous le No. 1479 (i. p. 493), il cite, comme composé par Maqrîzy, *Les poids et les mesures conformes à la loi*, dont S. de Sacy a donné une traduction.

[7] Zayn ed-dyn Qâsem ebn Qotloboghâ, né à Mesr, hanafîte, mourut dans sa ville natale en l'a. 879 (comm. 18 mai 1474). Hâdji Khalîfah cite un grand nombre de ses ouvrages ; mais aucun ne paraît se rapporter directement au sujet qui nous occupe.

disciple du grand savant El Kamâl, fils d'El Homâm,[1] dans un traité qu'il composa sur cette matière ; le grand savant 'Abd el Qâder le Soûfy,[2] dans son traité *Sur l'exposition du derham et du dînâr ;* et le *hakîm* (le sage) Eliyâ,[3] le métropolitain, dans son traité *Sur les mesures et les poids.* Chacun de ces auteurs a traité le sujet avec beaucoup de détails ; tu peux donc te reporter à leurs ouvrages, si tu le désires.

Voici comment, avec les données ci-dessus, on procède à la composition[4] du metqâl :

On prend cent graines de moutarde qu'on met en équilibre avec un morceau de cuivre : ce sera l'étalon de poids (sandjah) de la *habbah.* En suite on met cet étalon avec les (cent) graines de moutarde et on équilibre le tout avec un [nouveau] morceau de cuivre : [fo. 35*v.*] Celui-ci sera l'étalon des deux *habbah.* On fait aussi l'équilibre une seconde fois et l'on obtient un second étalon pour les deux *habbah.* On a ainsi trois étalons pesant (ensemble) cinq *habbah,* ou le demi-sixième du metqâl. Ensuite tu équilibres les trois étalons avec un étalon qui sera la *sandjah* de cinq *habbah.* On a obtenu de la sorte quatre étalons qui, à eux quatre[5] pèsent un sixième de metqâl. Puis, avec le tout,[6] on fait l'étalon du tiers, et successivement celui de la moitié, celui du metqâl, des deux, des cinq, des dix, des vingt, des cinquante, des deux cents, des cinq cents et des mille metqâls.[7] C'est par

[1] Kamâl ed-dyn Mohammad ebn Homâm ed-dyn 'Abd el Wâhed es-Siwâsy el Mesry, hanafite, connu sous le nom d'Ebn el Homâm, né en 788 (comm. 2 février 1386) ou 789, mourut en 861 (comm. 29 nov. 1456).—Hâdji Khalîfah et G. Flügel, *loc. cit.* p. 338.

[2] Hâdji Khalîfah (vi. p. 193) fait mention d'*Abd el Qâder ebn 'Aly ebn Cha'bân es-Soûfy comme auteur d'un commentaire du poème d'Ebn el Maghréby sur le calcul avec les doigts. Le bibliographe ne donne pas la date de sa mort.

[3] Elias bar Sinæus, métropolitain de Nésibe et dépendances, mourut le 7 mai 1049 de J.C. (Assemani, *Bibl. Syr.* t. iii. p. 266). Son traité *Sur les mesures et les poids* se trouve, au milieu d'autres œuvres de cet archevêque, dans un MS. Ar. de la Bibl. nat. de Paris, anc. fonds No. 114, et porte le titre de *Dissertation* (مقالة) *sur les poids et mesures.* Il est malheureusement très-incomplet. La traduction des fragments qui nous restent a été publiée dans la *R. As. Society,* juin 1877.

[4] تركيب.

[5] Le copiste a écrit رابعتها "dont le quatrième," au lieu de اربعتها.

[6] C'est-à-dire avec l'ensemble de tous ces étalons, après que le cinquième (égal à un sixième de metqâl) a été fait.

[7] Comp. Maqrîzy, *Monnaies,* p. 10 de la trad. de Sacy.

ce moyen qu'on obtient les étalons *(sandj)* dont on se sert, au nombre de quinze, savoir :

Cinq étalons pour les fractions,[1] c'est-à-dire l'étalon de la *habbah*, celui des deux *habbah*, celui d'un demi-sixième (de metqâl), celui d'un sixième et celui de la moitié ;—

Trois pour les unités des metqâls ; ce sont : l'étalon du metqâl, celui de deux metqâls et celui de cinq ;—

Trois pour les dixaines, de même ;—

Trois pour les centaines, de même ; et un seul étalon pour les mille metqâls.

On procède de la même manière à la composition des derhams. Ils sont en effet réglés sur ce pied, que chaque sept metqâls forment dix derhams. Chaque derham se composant de soixante *habbah* (grains), il s'en suit nécessairement que chacune des *habbah* du derham équivaut à soixante-dix graines de moutarde. Quand on a fait exactement l'étalon de poids d'une *habbah*, on obtient, avec celui-ci et les (soixante-dix) graines de moutarde, un étalon de deux *habbah*, puis un autre encore pour les deux *habbah*. On fait alors, au moyen des trois étalons, un seul étalon qui sera celui du *qîrât* ou du demi-sixième du derham.[2] Avec le tout, on obtient l'étalon du sixième (du derham), qui est l'étalon du *dâneq*.[3]

[fo. 36*r*.] En suite, avec tout ce qui précède, on fait l'étalon du tiers, puis de la moitié, puis du derham. Après quoi on compose les étalons qui suivent jusqu'à mille (derhams), dans l'ordre ci-devant indiqué pour les metqâls.

Puisque le derham est égal aux sept-dixièmes du metqâl, et le metqâl à un derham et trois septièmes de derham, les dix derhams pèseront sept metqâls et les dix metqâls, quatorze derhams et deux septièmes de derham.

Du derham et du metqâl découle, entre autres, la contenance *(meqdâr)* de la mesure de capacité *(mekyâl)*. Ainsi la contenance[4] du *Sâ'* est de mille quarante derhams de *mâch*

[1] الكسور.
[2] Ce qui donne 12 qîrâts au derham.
[3] D'où le derham égale 6 *dâneqs*.
[4] مقدار litt. "quantité."

(haricots)[1] ou de lentilles; ce qui fait, d'après Abou-Hanîfah, que Dieu soit satisfait de lui! huit ratls, au (ratl) de Baghdâd, à raison de cent trente derhams par ratl,[2] et, suivant Mâlek Ech-Châfé'y et Ahmad (ebn Hanbal), que Dieu soit satifait d'eux trois! cinq ratls et un tiers.[3]

Le *Mudd* est le quart du *Sâ'*; ce qui fait deux ratls, au dire D'Abou-Hanîfah, et un ratl et un tiers, suivant les (trois) autres docteurs.

Le *mann* égale deux ratls.

La *kaylah* égale un *mann* et sept huitièmes de *mann*.

Le *makkoûk* égale trois *kaylah*.

Le *qafîz* égale huit *makkoûk*.

Le *kurr* égale soixante *qafîz*.

Le *wasq* égale soixante *sâ'*.

Le *farq*, par un *râ* quiescent, est un vase qui prend quatre-vingts ratls, ou, suivant d'autres, trente-six ou soixante ratls. L'auteur du *Moghreb* cite ces deux dernières opinions.[4]

Le *ratl* se compose de douze *oqiyah* (onces).

L'*oqiyah* est un demi-sixième de *ratl*.

L'*estâr* égale quatre metqâls et demi.

Le *metqâl* équivaut à un derham et trois septièmes de derham.

Le *dâneq* est égal à un sixième de derham.

Le *qîrât* égale deux *tassoûdj*.

[1] Voy. Behrnauer, Journ. Asiatique, 1860; de Sacy, *Abd el Latîf*, p. 119, note 108; et Ibn al Awwam, traduction Clément-Mullet, ii. p. 67.

[2] "Lorsqu'Abou-Yoûsef (l'un des deux principaux disciples d'Abou-Hanîfah) fit le pélerinage et entra à Médine, il abandonna son opinion et adopta celle des habitants de cette ville sur deux points: l'appel à la prière avant l'aurore et l'évaluation du *Sâ'*. Le *Sâ'* qu'Omar évalua en présence des compagnons (du Prophète), et au moyen du quel il expiait ses serments était égal à 8 ratls; toutefois Sa'îd ebn el 'Âsy (né l'année même de l'hégire, † a. 59) le rétablit à $5\frac{1}{3}$." —Al Mokaddasi, éd. de Goeje, p. 98. Sa'îd fut nommé gouverneur de Médine par Mo'âwiah (*Osod el ghabah*, t. ii. p. 310, et En-Nawawy, ed. Wüstenfeld, p. 281).

[3] Le ratl dont il s'agit ici est celui de Médine, de 195 derhams; voy. le *Madjma, el Anhor*, Comment. du *Moultaqa el abhor*, p. 150. Cette valeur du ratl nous est également fournie par celle du *meudd*. En effet 2×130 (ratl de Bagdad) $=260$, et de même $195+\frac{1}{3}\frac{9}{9}$ (ratl de Médine et un tiers) $=260$.

[4] Le *Moghreb fi'l loghah* (Hâdji Khalîfah, t. v. p. 648, No. 12469), grand ouvrage de lexicologie, a pour auteur Abou'l fath Nâser ebn 'Abd es-Sayyed el Mottarézy, qui mourut en l'année 610 (comm. 23 mai 1213).

Le *tassoûdj* égale deux *habbah*.[1]

La *habbah* est [fo. 36*r*.] un sixième de dixième[2] du derham.

Telles sont les évaluations qui ont été attribuées (à ces poids).

Il y a à observer que ce que nous avons dit ci-dessus, d'après Eliyá, à savoir que le *qîrât* est égal à un demi-sixième de derham, donne nécessairement pour le (poids du) *tassoûdj* une *habbah* et demie, et non deux *habbah*. Mais d'après ce qu'on va voir, il résulte que le *qîrât* du ratl en est le demi-sixième, ce qui le fait égal à une demi-once ; et que le *qîrât* du derham est le demi-huitième de celui-ci. Toutefois c'est là une pratique particulière à la perception de la capitation ;[3] car on est convenu, dans ce cas, de regarder le derham comme composé de seize qîrâts et le metqâl de vingt-quatre ; mais nous trouvons dans la *Sunnah*[4] qu'il n'y a que vingt qîrâts dans le metqâl, et quatorze dans le derham.[5] Qu'on fasse donc bien attention à cela.

Le *qadh* pèse quatre cent quarante-deux derhams et six septièmes de derham.

Le *rub'* égale quatre *qadh (aqdâh) ;* son poids est donc de mille sept cent soixante et onze derhams et trois septièmes.[6]

Sache encore que la diversité des ratls, qui se composent d'un plus ou moins grand nombre de derhams, provient de la variété qu'offrent les objets à peser, plus précieux ou plus vils les uns que les autres. Ainsi l'huile ne saurait être soumise à la même règle que l'*extrait royal*, bien que l'un et l'autre soient des substances huileuses, pas plus qu'on n'assimilera l'aloès au bois à brûler, quoiqu'ils soient du bois l'un et l'autre. Les poids *(maqâdîr)* des ratls ont été réputés dans les diverses contrées, en égard à l'abondance des

[1] Bien que le texte porte *habbân*, je suppose qu'il faut lire, comme plus loin, *habbatân*.

[2] Nous avons déjà vu que le derham se compose de 60 *habbah*.

[3] C'est ainsi que je crois devoir traduire le mot جزية.

[4] On sait que la *Sunnah* est l'ensemble de traditions fondé sur les pratiques de Mahomet et que son autorité vient immédiatement après celle du Qor'ân.

[5] Comp. Maqrîzy, *loc cit.* p. 11, note 17.

[6] Le nombre "mille" est précédé dans le texte, de "quarante-deux," dont on ne s'explique pas la présence. C'est évidemment une erreur du copiste.

matières précieuses ou viles au pesage desquelles on les emploie. Ainsi ce qui a beaucoup de prix se pèse avec le derham et le metqâl, et ce qui est à bas prix est pesé en quintaux et en ratls. Tel étant l'état des choses, il nous faut savoir convertir les ratls les uns dans les autres, suivant le besoin. C'est pourquoi [fo. 37*r*.] nous dirons :

La méthode de conversion est celle-ci :

Tu multiplies le nombre des ratls à convertir par les derhams de leur ratl ; puis tu divises le produit par les derhams du ratl en lequel tu veux convertir : les unités [1] du quotient de la division, avec leur *marfoû'*,[2] représenteront des ratls. Multiplie ensuite le reste de la division *(monhatt)* [3] par douze, (nombre des) onces du ratl : les unités [4] du produit seront des onces, et le reste [5] sera une fraction d'once. Multiplie cette fraction par douze, par exemple, (nombre des) derhams qui composent l'once égyptienne, les *unités* du produit exprimeront des derhams, et le reste sera une fraction de derham. Multiplie-la par seize, (nombre des) qîrâts du derham, les unités du produit représenteront des qîrâts de derham, et le *reste* une fraction de qîrât. Prends alors le rapport de cette fraction au qîrât ; puis aligne ensemble les *unités*, d'après l'ordre qu'elles doivent occuper : [6] ce sera la réponse et l'on aura ce qu'on cherchait.[7]

Exemple. Nous voulons convertir le qentâr Syrien en *Mesry* (de Mesr).

Nous multiplions le qentâr du premier par le nombre de derhams d'un seul de ses ratls, égal à $9^{s}\ 52^{\circ}\ 30'$.[8] Le produit de la multiplication est $16^{ss}\ 27^{s}\ 30^{\circ}$. Ensuite nous

[1] اول مراتب الخ. Litt. "le premier des ordres de . . . ."

[2] Ce mot désigne ici la fraction complémentaire qui a pour numérateur le reste de la division et pour déterminateur le diviseur.

[3] Litt. "Ce qui est déposé."

[4] Litt. "Le premier des ordres." Par cette expression l'auteur entend le nombre des "entiers" contenu dans le produit, lorsqu'on divise celui-ci par soixante.

[5] Litt. "Ce qui vient après."

[6] ثم الف بين اوايل تلك المراتب على الترتيب. Le verbe الّف est à la II^e^ forme.

[7] L'exemple qui suit fera comprendre parfaitement la marche de l'opération.

[8] L'auteur se sert du système sexagésimal. Ce nombre, traduit dans le système décimal, représente 592·5 derhams.

divisons ce produit par les derhams du ratl en lequel nous convertissons ; c'est ici le *mesry* égal à $2^s\ 24°$: le quotient de la division est $6^s\ 51°\ 27'\ 30''$.

Or le nombre $6^s\ 51°$ développé[1] est quatre cent onze, et il reste $27'\ 30''$ que nous multiplions par douze, nombre des onces du ratl,[2] ou que nous divisons par le rapport de l'once au ratl, c'est-à-dire un demi-sixième ou $5'$:[3] les unités du quotient représentent cinq onces du (ratl) égyptien, et il reste $2'\ 30''$, que nous multiplions par douze, qui sont les derhams de l'once du (ratl) égyptien,[4] ou que nous divisons par le rapport du derham à l'once :[5] le quotient est $30'$ ou la moitié d'une once. Nous le multiplions [fo. 37*v.*] par douze, (nombre des) derhams de l'once (égyptienne), le produit est $6°$;[6] ce chiffre représente des derhams. Si, après cela, il y avait encore un reste, nous le multiplierions par seize, c'est-à-dire par les qîrâts du derham : les *unités* obtenues seraient des qîrâts, et le (nouveau) reste,[7] s'il y en avait un, serait une fraction de qîrât. Nous alignons ensuite[8] les unités de chaque ordre de ces produits : elles constituent la réponse qui, dans notre exemple, est $6^s\ 51°$ (ratls) $5°\ 6^d$; cette expression numérale développée[9] donne $411^r\ 5°\ 6^d$. C'est-a-dire quatre cent onze ratls *mesrys*, cinq onces et six derhams.[10]

Si tu veux, extrait cela de la table de conversion des

[1] فبسيط و نا.

[2] $27'\ 30'' \times 12 = 330' = 5°\ 30'$.

[3] $\frac{27'\ 30''}{5'} = 5°\ 30'$ ou, comme dit l'auteur, $5° + 2'\ 30''$.

[4] $2'\ 30'' \times 12 = 30'$.

[5] $\frac{2'\ 30''}{5'} = 30'$.

[6] $30' \times 12 = 360'$; $\frac{360'}{60'} = 6°$.

[7] Litt. " Ce qui vient après."

[8] ثم الّفنا.

[9] و بسيطها.

[10] Si nous employons notre système de numération, l'opération se présente ainsi : 100 (ratls ou le qentâr Syrien) $\times 592{\cdot}5$ (nombre des derhams du ratl Syrien) $= 59250$ (soit, dans le système sexagésimal

$16^{ss} = 16 \times 60 \times 60 = 57600$
$27^s = 27 \times 60 = 1620$
$30° = 30 \times 1 = 30$

59250)

qentârs les uns dans les autres,[1] en extrant avec le (qentâr) qu'il s'agit de convertir dans la (première) colonne verticale,[2] (puis pénètre) horizontalement[3] dans la colonne portant en tête la mention du (qentâr) en lequel tu convertis : ce que tu trouveras à la rencontre des deux, dans l'intérieur de la table, sera la réponse. Or ce qui se rencontre, dans la conversion du Syrien en égyptien, à l'intérieur de la table, dans notre exemple, est 6^{s} 51° 5° 6^{d}, soit, développé, 411^{r} 5° 6^{d} ; ce qui est la réponse, comme tu viens de l'apprendre.

Si tu veux déterminer (ce que représentent) les fractions, à l'aide de leurs tables, entre avec la fraction 27′ 30″ dans la *table du rapport des onces au ratl*,[4] tu trouveras 25 : prends ce qui lui correspond dans la colonne intitulée *nombre des onces*, c'est-à-dire 5. Il te restera 2′ 30″. Entre avec ce nombre dans la table consacrée au *rapport des derhams à l'once*,[5] tu trouveras en face de 2′ 30″, 6 que tu placeras à la suite de l'ordre des onces, vu que c'est une fraction d'once, et par là sera complétée la réponse dans notre exemple.

En divisant 59250 par 144 (nombre des derhams du ratl *mesry*), nous obtenons successivement des ratls, des onces et des derhams :

59250	144
165	411^{r} 5° 6^{d}
210	
66	
12	
132	
66	
792	
72	
12	
144	
72	
864	
000	

[1] Voir la table ci-après, page 279.

[2] العدد الطولى. Litt. "le nombre écrit dans le sens de la longueur" ou *longitudinal*, si l'on peut s'exprimer ainsi.

[3] العدد العرضى. Litt. "le nombre écrit dans le sens de la largeur," ou *latitudinal*.

[4] Voir la table ci-après, page 274.

[5] Voir la table ci-après, page 274.

Si, après les derhams, il te restait quelque chose, tu entrerais avec ce reste dans la table contenant le *rapport des qîrâts au derham ;*[1] tu prendrais ce qui lui ferait face ;[2] ce sont en effet des qîrâts de derham.

Si cette opération te donnait encore un reste, tu en prendrais le rapport au qîrât, attendu qu'il en serait une fraction. Par là se compléterait [fo. 38*r.*] la solution cherchée.

Sache bien[3] placer chaque chose dans son ordre.

Tu peux encore, si tu le préfères, employer la méthode du rapport à soixante. En effet en prenant le rapport du restant, qui est 2′ 30″,[4] à soixante, tu le trouves égal à une demi-once ; car le rapport de l'once au ratl est un demi-sixième. Or le demi-sixième de soixante est cinq, et la moitié de cinq deux et demi ou soit 2′ 30″. On aura donc six derhams, qui sont la moitié de l'once.

De même si tu divises 2′ 30″ par 25″, le quotient sera 6, c'est-à-dire encore la moitié de l'once égyptienne, attendu que ce qui te reste après avoir extrait les onces, si tu le divises par le rapport du derham à l'once, c'est-à-dire 25″, te donne le nombre des derhams qui sont en plus des onces *entières*, que ce soit une demie ou une autre (fraction). Ce rapport s'obtient en divisant cinq par douze.

Sache aussi que le qentâr Syrien, bien que son ratl soit de six cents derhams, se compose cependant, par rapport aux ratls *mesrys*, de quatre cent onze ratls *(mesrys)* et cinq onces et demie. Il s'ensuit que relativement aux poids *mesrys*, le ratl Syrien contient cinq cent quatre-vingt-douze derhams et demi ;[5] c'est pourquoi nous avons multiplié par 9^{s} 52° 30′. S'il n'en était pas ainsi, les règles fondamentales auraient exigé qu'on multipliât par 10^{s}, c'est-à-dire dix *complets*,[6]

[1] Voir la table ci-après, page 275.

[2] Je lis: ما يحاذى ذلك.

[3] ولا يخفى عليك.

[4] Nous ferons observer ici une fois pour toutes qu'El Djabarty n'accompagne ses lettres numérales d'aucune signe qui indique quelle valeur *sexagésimale* il leur attribue.

[5] C'est sans doute une anomalie consacrée par l'usage.

[6] كاملة, par opposition à 9^{s} 52° 30′.

comme cela a lieu quand on convertit le (qentâr) Syrien en tout autre (qentâr) que l'égyptien.[1] Fais donc attention.

Tu ne dois pas ignorer non plus que le *qîrât* de tout ratl est toujours une demi-once. Si donc tu divises les derhams de quelque ratl que ce soit par vingt-quatre, le quotient sera le *qîrât* de ce ratl. Quand, après avoir bien gravé cette règle dans ton esprit, tu multiplieras le qîrât du (ratl) à convertir par son qentâr, c'est-à-dire par cent ratls, et que tu diviseras ensuite le produit [fo. 38*v.*] par le qîrât du (ratl) en lequel tu convertis, tu auras la solution cherchée, comme (tu l'as obtenu) en premier (lieu).

Exemple. Nous divisons $9^s\ 52°\ 30'$, qui sont les derhams du ratl syrien, relativement à l'égyptien, par 24°; le quotient est $24°\ 41'\ 15''$; c'est le qîrât de ce ratl. Ensuite nous multiplions ce quotient par $1^s\ 40°$, c'est-à-dire cent: le produit est $41^s\ 8°\ 45'$. Nous divisons maintenant ce produit par 6°, c'est-à-dire six, chiffre représentant le qîrât du ratl mesry en lequel on convertit: le quotient de la division est $6^s\ 51°\ 27'\ 30''$ ou, avec le développement, quatre cent onze (ratls) et cinq onces et demie, comme précédemment: ce qui est la solution cherchée.

Autre exemple. Nous voulons convertir cinquante ratls *mesrys* en ratls de Foûwah.

Nous multiplions cinquante par six:[2] le produit est trois cent. Ensuite nous divisons ce produit par le qîrât du (ratl) de Foûwah, qui est quinze:[3] le quotient est vingt, en ratls *Foûwys*.[4]

De même si tu divises le qîrât du (ratl) à convertir, c'est-à-dire $24°\ 41'\ 15''$ par le qîrât de celui en lequel tu convertis, c'est-à-dire six; qu'ensuite tu multiplies le quotient

[1] Nous traduisons quelquefois *mesry* par "égyptien." Cependant nous devons faire observer que cet adjectif signifie exactement "de Mesr," appellation qui s'applique tant à l'Egypte qu'à sa capitale. On sait d'ailleurs qu'il n'y avait pas une livre commune à toute l'Egypte, mais que bien des localités avaient la leur. Il faut donc entendre par poids *mesry* celui en usage dans la capitale Mesr.

[2] Qîrât (ou 24me) du ratl *mesry*. $\frac{144}{24}=6$ derhams.

[3] $\frac{360}{24}=15$.

[4] Nous aurions également, par la première méthode, $\frac{50\times144}{360}=20$.

4° 6′ 52″ 30‴ par le qentâr du (ratl) à convertir, égal à 1ˢ 40°, c'est-à-dire cent, le produit sera 6ˢ 51° 27′ 30″. Opère à son égard comme précédemment, tu auras ce que tu cherches.

De même encore, si tu multiplies le qîrât du (ratl) à convertir par 1ˢ 40°, et qu'ensuite tu divises le produit par le qîrât du (ratl) en lequel tu convertis, le quotient donnera la solution cherchée.[1]

Si nous voulons convertir le *mesry* en Syrien, nous ferons l'opération inverse : nous multiplierons cent ratls par les derhams du ratl égyptien ; puis nous diviserons le produit par les derhams du ratl syrien. Nous aurons en quotient les ratls et leur fraction. Nous multiplierons ensuite la fraction par douze, nombre des onces du ratl syrien : le "premier des ordres" du produit sera des onces et *ce qui le suit*, une fraction d'once. [fo. 39*r*.] Opère à son égard comme précédemment, tu auras ce que tu cherches.

Autre manière. Tu divises la fraction par le rapport de l'once au ratl; ce rapport est un demi-sixième. Tu obtiendras les onces et leur fraction. Puis tu multiplies la fraction de l'once par les derhams de l'once du ratl en lequel tu convertis : le "premier des ordres" du produit sera des derhams, et *ce qui vient après*, une fraction de derham. Multiplie cette fraction par les seize qîrâts du derham : les "unités du premier ordre"[2] du produit seront des qîrâts entiers, et *ce qui vient après* exprimera une fraction de qîrât. Tu prends le rapport de cette fraction au qîrât. Enfin tu alignes ensemble toutes les unités de ces divers ordres,[3] comme précédamment. Tu auras la réponse.

Exemple. Nous multiplions 1ˢ 40° par 2ˢ 24° : le produit est 4ˢˢ. Nous divisons ensuite ce produit par 9ˢ 52° 30′ : nous avons comme quotient 24° 18′ 13″ 5‴ 15⁗, c'est-à-dire vingt-quatre ratls et une fraction. Puis nous divisons cette fraction par le rapport de l'once au ratl, soit un demi-sixième, ou 5′ :

[1] En effet $\frac{41^s\ 8°\ 45'}{6°} = 411°\ 21'\ 27''\ 30'''$.

[2] Litt. "le premier des ordres."

[3] ثم تولف بين تلك الوائل.

le quotient est trois onces et une fraction d'once, ainsi : 3° 38′ 44″ 3‴, c'est-à-dire trois onces et une fraction. Nous multiplions cette fraction par les derhams de l'once, que nous obtenons de la division de son ratl, égal à 9^{s} 52° 30′, par 12°, et qui sont 49° 22′ 30″ : le produit est 31° 52′ 29″ 58‴ 7^{iv} 30^{v}. Les "unités du premier ordre" sont trente-un derhams ; et *ce qui vient après*, si nous le multiplions par le nombre *(meqdâr)*[1] des qîrâts du derham, c'est-à-dire seize, donne comme produit 13° 59′ 59″ 30‴. Les "unités du premier ordre" sont treize, c'est-à-dire les qîrâts. En forçant *ce qui vient après* (c'est-à-dire la fraction) pour (parfaire) un qîrât,[2] nous aurons quatorze qîrâts, et la réponse sera alors 24^{r} 3° 31^{d} 14^{q}, c'est-à-dire vingt-quatre ratls, trois onces, trente-un derhams et quatorze qîrâts.

L'emploi de la multiplication par douze, au lieu de la division [fo. 39*v.*] par cinq, convient mieux pour obtenir la solution cherchée. Toute l'opération se fait alors par le méthode de la multiplication. Fais donc attention.

En somme, la règle fondamentale est celle-ci : Tu multiplies les derhams du ratl à convertir par ses ratls,[3] et tu divises le produit par les derhams du ratl en lequel tu convertis : les "unités du premier ordre" du quotient de la division, avec leur fraction *(marfoû')*, s'il y en a une, expriment des ratls. Puis tu multiplies la fraction *qui vient après* par douze, nombre des onces du ratl : les "unités du premier ordre" du produit expriment des onces. Tu multiplies ensuite *ce qui vient après* par les derhams dont se compose l'once, suivant son ratl : les "unités du premier ordre" du produit sont des derhams. En suite tu multiplies par les seize qîrâts du derham : les "unités du premier ordre" du produit représentent des qîrâts, et *ce qui vient après*, une fraction de qîrât. Prends le rapport de cette fraction au qîrât. Enfin rassemble ces différentes unités dans leur ordre ; elles constitueront la réponse.

[1] L'auteur a successivement employé pour signifier "nombre," les mots عدّة, عدد et مقدار.

[2] وما بعده يجبر بقيراط.

[3] C'est-à-dire, par le nombre de ratls contenus dans son qentâr.

Sache encore que les derhams du *ratl* d'une ville quelconque, multipliés par cent, donnent son *qentâr*, et, divisés par douze, les derhams des onces de ce ratl. En divisant l'once en deux moitiés, on obtient le *qîrât du ratl*, de même que si on divise le ratl par vingt-quatre. Et si tu multiplies[1] le derham par seize, le produit te donne le (nombre de) qîrâts contenus dans le derham. D'après cela, le qîrât du ratl est le quart du sixième de celui-ci, et le qîrât du derham est le demi-huitième de ce dernier.[2]

Si tu réfléchis à ce qui précéde, tu sauras que cela revient à dire que le rapport d'une once à une autre est comme le rapport du qentâr à l'autre qentâr.

Démonstration. L'once égyptienne se compose de douze derhams, et l'once syrienne contient cinquante derhams: le rapport de douze à cinquante étant un cinquième et un cinquième de cinquième, le rapport du qentâr *mesry* au qentâr syrien sera de même un cinquième et un cinquième de cinquième. Le qentâr *mesry* sera donc égal à vingt-quatre ratls [fo. 40*r*.] syriens.

En abrégeant, je dirai: le rapport d'un qentâr à un autre qentâr est égal au rapport du qîrât (du ratl du premier) au qîrât (du ratl du second). Le qîrât *mesry* est de six derhams, et le syrien de vingt-cinq derhams: le rapport de six à vingt-cinq est un cinquième et un cinquième de cinquième; il en sera donc de même du qentâr *mesry* par rapport au syrien.

Le rapport du qîrât *mesry* au qîrât *Foûwy*,—lequel contient quinze derhams,—est deux cinquièmes: le qentâr *mesry* comparé au qentâr de Foûwah, sera donc égal à quarante ratls de Foûwah.[4] Il n'est pas douteux en effet que: quarante ne soient les deux cinquièmes de cent.

Le rapport du qîrât (du ratl) de Foûwah au qîrât (du ratl) syrien est trois cinquièmes; il en sera donc de même du rapport du qentâr de Foûwah au qentâr de Syrie, et con-

[1] Le texte porte: "Si tu divises;" mais c'est une erreur évidente du copiste.

[2] En d'autres termes, le ratl se divise en 24 qîrâts (de ratl), et le derham en 16 qîrâts (de derham).

[3] الوقية المصرية.

[4] En effet 100 M = 100 F × $\frac{2}{5}$ = 40 F.

séquemment le qentâr de Foúwah égalera soixante ratls syriens.[1]

Le moyen le plus commode pour résoudre ce problème est celui que nous venons d'indiquer, savoir: multiplier le qîrât du (ratl) à convertir par son qentâr et diviser le produit par le qîrât du (ratl) en lequel on convertit.

J'ai vu, à propos de ces ingénieux problèmes[2] des tables[3] dont toutefois le contenu avait été tellement défiguré par les copistes que personne ne les consultait plus, à cause de leur peu d'exactitude.[4] Force m'a donc été de la refaire, afin qu'elles pussent de nouveau être consultées.[5] Les voici figurées :

[1] On a en effet $\frac{360}{600}=\frac{3}{5}$, et $100\ \mathrm{F}=100\ \mathrm{S}\times\frac{3}{5}=60\ \mathrm{S}$.

[2] El Djabarty répand ici quelques fleurs de rhétorique orientale. Le texte porte littéralement: "J'ai vu, dans les parterres de ces jardins fleuris, des ruisseaux."

[3] جداول, pl. de جدول, signifie, comme on sait, "ruisseaux, rigoles," et en même temps "tables, tableaux."

[4] L'auteur, continuant la figure commencée, s'exprime ainsi: "Toutefois leur eau avait disparu au bruit du vent des copies, et ceux qui venaient s'y abreuver s'en étaient allés par suite de la métamorphose que les figures avaient subies."

[5] Enfin il termine ainsi: "La situation m'a donc obligé à recommencer le travail, pour que l'eau retournât à ses canaux," en faisant encore un jeu de mots sur la double signification du mot جداول.

TABLE DE CONVERSION DE RATLS DIVERS EN POIDS *MESRYS*.

Ratls "communs."[1]	Syrien 592·8.[2]	de Foûwah 360.	de Damiette 330.	Djarouy 312.	Manns 260.	layty 200.
	R O D Q	R O D Q	R O D Q	R O D Q	R O D Q	R O D Q[3]
1	4 1 4 30[4]	2 6 0 0	2 3 6 0	2 2 0 0	1 9 8 0	1 4 8 0
2	8 2 9 0	5 0 0 0	4 7 0 0	4 4 0 0	3 7 4 0	2 9 4 0
3	12 4 1 30	7 6 0 0	6 10 6 0	6 6 0 0	5 5 0 0	4 2 0 0
4	16 5 6 0	10 0 0 0	9 2 0 0	8 8 0 0	7 2 8 0	5 6 8 0
5	20 6 10 30	12 6 0 0	11 5 6 0	10 10 0 0	9 0 4 0	6 11 4 0

[1] مشتركة litt. "associés." Cette colonne indique, comme on le voit, le nombre des ratls Syriens, de Foûwah, de Damiette, etc., qui, convertis en *mesrys*, donnent en regard, sur la ligne horizontale correspondante, les nombres inscrits dans les colonnes intitulées "Syrien," "de Foûwah," "de Damiette," etc. Ainsi 1 ratl Syrien est égal à 4 ratls *mesrys*, 1 once, 4 derhams et $\frac{30}{60}$ de derham; 1 ratl de Foûwah égale 2 ratls *mesrys*, 6 onces, 0 derham et 0 qîrât.

[2] Le 8 représente ici des qîrâts de derham, c'est-à-dire $\frac{8}{16}$ ou un demi-derham.

[3] Les abréviations adoptées en arabe sont L (ل) pour *ratl*; Q (ق) pour *oqiyah* (once); M (م) pour *derham*, et T (ط) pour *qîrât*. Ce sont, comme on le voit, les dernières consonnes radicales des mots رطل, اوقية, درهم, قيراط. Les usages suivis en Orient étant pour la plupart l'opposé de ceux de l'Occident, on ne sera pas étonné de nous voir adopter comme abréviations les lettres initiales.

[4] Pour être d'accord avec l'intitulé de la colonne qu'il consacre aux qîrâts, El Djabarty aurait dû mettre ici un 8. Il remplace ce chiffre par 30 (c'est-à-dire 30') qui exprime aussi, dans le système sexagésimal, dont il se sert généralement, une demie, et ici la moitié d'un derham. En outre l'auteur force partout le chiffre des qîrâts; en divisant $592\frac{1}{2}$ par 144 et réduisant la fraction en onces, derhams et qîrâts, on a pour ces derniers $\frac{60}{144}$, fraction à laquelle il manque $\frac{12}{144}$ pour être égale à une demie.

N. Le tableau se trouve au fo. 41v. partie du bas.

[fo. 40*v*.] TABLE DE CONVERSION DE RATLS DIVERS EN POIDS *MESRYS*. REFAITE PAR L'AUTEUR.

Ratls "communs."	Syrien.				de Foûwah.				de Damiette.				Djarouy.				Manns.				Layty.			
	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q
5	20	6	10	30	12	6	0	0	11	5	6	0	10	10	0	0	9	0	4	0	6	11	4	0
10	41	1	9	0	25	0	0	0	22	11	0	0	21	8	0	0	18	0	8	0	13	10	8	0
15	61	8	7	30	37	6	0	0	34	4	6	0	32	6	0	0	27	1	0	0	20	10	0	0
20	82	3	6	0	50	0	0	0	45	10	0	0	43	4	0	0	36	1	4	0	27	9	4	0
25	102	10	4	30	62	6	0	0	57	3	6	0	54	2	0	0	45	1	8	0	34	8	8	0
30	123	5	3	0	75	0	0	0	68	9	0	0	65	0	0	0	54	2	0	0	41	8	0	0
35	144	0	1	30	87	6	0	0	80	2	6	0	75	10	0	0	63	2	4	0	48	7	4	0
40	164	7	0	0	100	0	0	0	91	8	0	0	86	8	0	0	72	2	8	0	55	6	8	0
45	185	1	10	30	112	6	0	0	103	1	6	0	97	6	0	0	81	3	0	0	62	6	0	0
50	205	8	9	0	125	0	0	0	114	7	0	0	108	4	0	0	90	3	4	0	69	5	4	0
55	226	3	7	30	137	6	0	0	126	0	6	0	119	2	0	0	99	3	8	0	76	4	8	0
60	246	10	6	0	150	0	0	0	137	6	0	0	130	0	0	0	108	4	0	0	83	4	0	0
65	267	5	4	30	162	6	0	0	148	11	6	0	140	10	0	0	117	4	4	0	90	3	4	0
70	228	0	3	0	175	0	0	0	160	5	0	0	151	8	0	0	126	4	8	0	97	2	8	0
75	308	7	1	30	187	6	0	0	171	10	6	0	162	6	0	0	135	5	0	0	104	2	0	0
80	329	2	0	0	200	0	0	0	183	4	0	0	173	4	0	0	144	5	4	0	111	1	4	0
85	349	8	10	30	212	6	0	0	194	9	6	0	184	2	0	0	153	5	8	0	118	0	8	0
90	370	3	9	0	225	0	0	0	206	3	0	0	195	0	0	0	162	6	0	0	125	0	0	0
95	390	10	7	30	237	6	0	0	217	8	6	0	205	10	0	0	171	6	4	0	131	11	4	0
100	411	5	6	0	250	0	0	0	229	2	0	0	216	8	0	0	180	6	8	0	138	10	8	0

[fo. 41r.] TABLE DE CONVERSION DE RATLS DIVERS EN POIDS MESRYS.

Ratls "communs."	Syrien.				de Foûwah.				de Damiette.				Djarouy.				Manns.				Layty.			
	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q
150	617	2	3	0	375	0	0	0	343	9	0	0	325	0	0	0	270	10	0	0	208	4	0	0
200	822	11	0	0	500	0	0	0	458	4	0	0	433	4	0	0	361	1	4	0	277	9	4	0
250	1028	7	9	0	625	0	0	0	572	11	0	0	541	8	0	0	451	4	8	0	347	2	8	0
300	1234	4	6	0	750	0	0	0	687	6	0	0	650	0	0	0	541	8	0	0	416	8	0	0
350	1440	1	3	0	875	0	0	0	802	1	0	0	758	4	0	0	631	11	4	0	486	1	4	0
400	1645	10	0	0	1000	0	0	0	916	8	0	0	866	8	0	0	722	2	8	0	555	6	8	0
450	1851	6	9	0	1125	0	0	0	1031	3	0	0	975	0	0	0	812	6	0	0	625	0	0	0
500	2057	3	6	0	1250	0	0	0	1145	10	0	0	1083	4	0	0	902	9	4	0	694	5	4	0
550	2263	0	3	0	1375	0	0	0	1260	5	0	0	1191	8	0	0	993	0	8	0	763	10	8	0
600	2468	9	0	0	1500	0	0	0	1375	0	0	0	1300	0	0	0	1083	4	0	0	833	4	0	0
650	2674	5	9	0	1625	0	0	0	1489	7	0	0	1408	4	0	0	1173	7	4	0	902	9	4	0
700	2880	2	6	0	1750	0	0	0	1604	2	0	0	1516	8	0	0	1263	10	8	0	972	2	8	0
750	3085	11	3	0	1875	0	0	0	1718	9	0	0	1625	0	0	0	1354	2	0	0	1041	8	0	0
800	3291	8	0	0	2000[1]	0	0	0	1833	4	0	0	1733	4	0	0	1444	5	4	0	1111	1	4	0
850	3497	4	9	0	2125	0	0	0	1947	11	0	0	1841	8	0	0	1534	8	8	0	1180	6	8	0
900	3703	1	6	0	2250	0	0	0	2062	6	0	0	1950	0	0	0	1625	0	0	0	1250	0	0	0
950	3908	10	3	0	2375	0	0	0	2177	1	0	0	2058	4	0	0	1715	3	4	0	1319	5	4	0
1000	4114	7	0	0	2500	0	0	0	2291	8	0	0	2166	8	0	0	1805	6	8	0	1388	10	8	0
1500	6171	10	6	0	3750	0	0	0	3437	6	0	0	3250	0	0	0	2708	4	0	0	2083	4	0	0
2000	8229	2	0	0	5000	0	0	0	4583	4	0	0	4333	4	0	0	3611	1	4	0	2777	9	4	0[2]

[1] Le copiste a mis ici 1900 au lieu de 2000; ses chiffres continuent à être erronés jusqu'à la fin de cette colonne; il les présente ainsi; 2025, 2150, 2275, 2300, 3550, 4800.

[2] Dans ce tableau la colonne des ratls est donnée en chiffres arabes; toutes les autres, comme celles des deux tableaux précédents, portent des lettres. Toutefois dans le premier tableau les nombres 1 à 5 sont représentés par des chiffres.

[fo. 41*v*. haut.] TABLE DE CONVERSION DES ONCES DIVERSES EN POIDS *MESRYS*.

Onces "communes."	Syrien.				de Foûwah.				de Damiette.				Djarouy.				Manns.				Layty.			
	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q	R	O	D	Q
1	0	4	1	22′30″[1]	0	2	6	0	0	2	3	30′	0	2	2	0	0	1	9	40′	0	1	4	40′
2	0	8	2	45′	0	5	0	0	0	4	7	0	0	4	4	0	0	3	7	20′	0	2	9	20′
3	1	0	4	7′30″	0	7	6	0	0	6	10	30′	0	6	6	0	0	5	5	0	0	4	2	0
4	1	4	5	30′	0	10	0	0	0	9	2	0	0	8	8	0	0	7	2	40′	0	5	6	40′
5	1	8	6	52′30″	1	0	6	0	0	11	5	30′	0	10	10	0	0	9	0	20′	0	6	11	20′
6	2	0	8	15′	1[3]	3	0	0	1	1	9	0	1	1	0	0	0	10	10	0	0	8	4	0
7	2	4	9	37′30″	1	5	6	0	1[5]	4	0	30′	1[6]	3	2	0	1	0	7	40′	0	9	8	40′
8	2	8	11	0	1	8	0	0	1	6	4	0	1	5	4	0	1[7]	2	5	20′	0	11	1	20′
9	3	1	0	22′30″[2]	1	10	6	0	1	8	7	30′	1	7	6	0	1	4	3	0[8]	1	0	6	0
10	3	5	1	45′	2	1	0	0	1	10	11	0	1	9	8	0	1	6	0	40′	1	1	10	40′
11	3	9	3	7′30″	2[4]	3	6	0	2	1	2	30′	1	11	10	0	1	7	10	20′	1	3	3	20′
12	4	1	4	30′	2	6	0	0	2	3	6	0	2	2	0	0	1	9	8	0	1	4	8	0

[1] 22′ 30″ représentant 6 qîrâts de derhum; en effet $\frac{22\frac{1}{2}}{60}=\frac{6}{16}$.

[2] Le texte porte par erreur 3. 2. 1. 22′ 30″.

[3] L'1, c'est-à-dire l'alef (ا), a été omis ici ainsi que dans les deux lignes qui suivent.

[4] Le ب=2 est ici omis dans le MS.

[5] L'ا=1 a été omis ainsi que dans les deux nombres suivants.

[6] L'ا=1 a été omis ici et dans les trois lignes suivantes.

[7] L'ا=1 a été omis ici et dans les trois lignes suivantes.

[8] Le texte porte par erreur un ف=40, au lieu d'un ح=0.

[fo. 42*r*.] TABLE DU RAPPORT DES ONCES AU RATL.

Nombre des derhams du ratl *mesry*.	Nombre des onces.	Valeur des onces exprimées en 60mes.[1]	Rapport des onces au ratl, le ratl étant 60.
12	1	5′	un demi-sixième
24	2	10′	un sixième
36	3	15′	un quart
48	4	20′	un tiers
60	5	25′	un quart et un sixième
72	6	30′	une demie
84	7	35′	un tiers et un quart
96	8	40′	deux tiers
108	9	45′	trois quarts
120	10	50′	une demie et un tiers
132	11	55′	deux tiers et un quart
144	12	60′	uu entier[2]

[1] Litt. "Rapport des onces à S (soixante)."

[2] مثل.

TABLE DU RAPPORT DES DERHAMS A L'ONCE.

Nombre des derhams.	Rapport du derham à l'once, on soit le quotient de la division de 5′ par 12.	Rapport du derham au rapport de l'once au ratl, le ratl étant 60.[1]
1	0′ 25″	un demi-sixième
2	0 50	un sixième
3	1 15	un quart
4	1 40	un tiers
5	2 5	un quart et un sixième
6	2 30	une demie
7	2 55	un tiers et un quart
8	3 20	deux tiers
9	3 45	trois quarts
10	4 10	une demie et un tiers
11	4 35	deux tiers et un quart
12	5 0	un entier

[1] Cette colonne pourrait être intitulée plus simplement : *Rapport des derhams à l'once, celle-ci étant* 12.

[fo. 42*v*.] TABLE DU RAPPORT DES QIRATS AU DERHAM.

Les qîrâts du derham.	Rapport des qîrâts au derham, ou soit le quotient de la division de 25″ par 16.		
1	1″	33‴	45⁗
2	3	7	30
3	4	41	15
4	6	15	0
5	7	48	45
6	9	22	30
7	10	58	15
8	12	30	0
9	14	3	45
10	15	37	30
11	17	11	15
12	18	45	0
13	20	18	45
14	21	52	30
15	23	26	15
16	25	0	0

Les qîrâts du metqâl.	Rapport du qîrât du metqâl à 60.[1]	C'est aussi le rapport du qîrât du ratl à 60.[2]
1	2′ 30″	un tiers de huitième
2	5 0	deux tiers de huitième
3	7 30	un huitième
4	10 0	un sixième
5	12 30	un sixième et un tiers de huitième
6	15 0	un quart
7	17 30	un sixième et un huitième
8	20 0	un tiers
9	22 30	un quart et un huitième
10	25 0	un quart et un sixième
11	27 30	un tiers et un huitième
12	30 0	une demie
13	32 30	un quart, un sixième et un huitième
14	35 0	un tiers et un quart
15	37 30	une demie et un huitième
16	40 0	deux tiers
17	42 30	un tiers, un quart et un huitième
18	45 0	une demie et un quart
19	47 30	deux tiers et un huitième
20	50 0	une demie et un tiers
21	52 30	une demie, un quart et un huitième
22	55 0	deux tiers et un quart
23	57 30	une demie, un tiers et un huitième
24	60 0	un entier.

[1] C'est-à-dire valeur du qîrât exprimée en 60^{mes}.
[2] Rapport de la valeur du qîrât du ratl au ratl, le ratl étant 60.

TABLE DE LA VALEUR *(MEQDAR)* DU QIRAT DU DERHAM PAR RAPPORT A SOIXANTE.

Qîrât du derham.	Rapport du qîrât du derham à 60.	
1	3′ 45″	un demi-huitième
2	7 30	un huitième
3	11 15	un huitième et un demi-huitième
4	15 0	un quart
5	18 45	un quart et un demi-huitième
6	22 30	un quart et un huitième
7	26 15	un quart, un huitième et un demi-huitième
8	30 0	une demie
9	33 45	une demie et un demi-huitième
10	37 30	une demie et un huitième
11	41 15	une demie, un huitième et un demi-huitième
12	45 0	une demie et un quart
13	48 45	une demie, un quart et un demi-huitième
14	52 30	une demie, un quart et un huitième
15	56 15	une demie, un quart, un huitième et un demi-huitième
16	60 0	un entier

[fo. 43*r*.]

Les ratls.	Les derhams des ratls (mesrys).	En sexagésimales.[1]			Les ratls.	Les derhams des ratls (mesrys).	En sexagésimales.		
1	144	0ss	2s	24°	51	7344	2ss	2s	24°
2	288	0	4	48	52	7488	2[4]	4	48
3	432	0	7	12	53	7632	2	7	12
4	576	0	9	36	54	7776	2	9	36
5	720	0	12	0	55	7920	2	12	0
6	864	0	14	24	56	8064	2	14	24
7	1008	0	16	48	57	8208	2	16	48
8	1152	0	19	12	58	8352	2	19	12
9	1296	0	21	36	59	8496	2	21	36
10	1440	0	24	0	60	8640	2	24	0
11	1584	0	26	24	61	8784	2	26	24
12	1728	0	28	48	62	8928	2	28	48
13	1872	0	31	12	63	9072	2	31	12
14	2016	0	33	36	64	9216	2	33	36
15	2160	0	36	0	65	9360	2	36	0
16	2304	0	38	24	66	9504	2	38	24
17	2448	0	40	48	67	9648	2	40	48
18	2592	0	43	12	68	9792	2[5]	43	12
19	2736	0	45	36	69	9936	2	45	36
20	2886	0	48	0	70	10080	2	48	0
21	3024	0	50	24	71	10224	2	50	24
22	3168	0	52	48	72	10368	2	52	48
23	3312	0	55	12	73	10512	2	55	12
24	3456	0	57	36	74	10656	2	57	36
25	3600	1	0	0	75	10800	3	0	0
26	3744	1[2]	2	24	76	10944	3[6]	2	24
27	3888	1	4	48	77	11088	3	4	48
28	4032	1	7	12	78	11232	3	7	12
29	4176	1	9	36	79	11376	3	9	36
30	4320	1	12	0	80	11520	3	12	0
31	4464	1	14	24	81	11664	3	14	24
32	4608	1	16	48	82	11808	3	16	48
33	4752	1	19	12	83	11952	3	19	12
34	4896	1	21	36	84	12096	3	21	36
35	5040	1[3]	24	0	85	12240	3	24	0
36	5184	1	26	24	86	12384	3	26	24
37	5328	1	28	48	87	12528	3	28	48
38	5472	1	31	12	88	12672	3	31	12
39	5616	1	33	36	89	12816	3	33	36
40	5760	1	36	0	90	12960	3	36	0
41	5904	1	38	24	91	13104	3	38	24
42	6048	1	40	48	92	13248	3	40	48
43	6192	1	43	12	93	13392	3	43	12
44	6336	1	45	36	94	13536	3	45	36
45	6480	1	48	0	95	13680	3	48	0
46	6624	1	50	24	96	13824	3	50	24
47	6768	1	52	48	97	13968	3	52	48
48	6912	1	55	12	98	14112	3	55	12
49	7056	1	57	36	99	14256	3	57	36
50	7200	2	0	0	100	14400	4	0	0

[1] Litt. "Leurs ordres sexagésimaux."
[2] A partir d'ici jusqu'à 32 inclusivement, l' ا = 1 est omis dans le MS.
[3] A partir d'ici jusqu'à 48 inclusivement, l' ا = 1 se trouve supprimé dans le MS.
[4] Depuis ici jusqu'à 65 inclusivement, le ب = 2 a été omis par le copiste.
[5] Le copiste a omis le ب = 2, depuis ici jusqu'à 73 inclusivement.
[6] Dans le texte le ج = 3, omis depuis ici, ne reparaît plus qu'en régard de 99.

Remarque.[1] Tu sais par ce qui précede que le rapport de l'once au ratl est un demi-sixième. Lors donc qu'on considère le rapport du ratl à soixante, l'once est cinq, vu que ce nombre est le demi-sixième de soixante, car il est le quotient de la division de soixante par douze. Si tu divises les cinq par douze, le derham *mesry* de l'once sera 25 : c'est ce qu'on appelle la *part*[2] du derham. Si tu divises ensuite la *part* du derham, c'est-à-dire 25′, par seize, qui sont le nombre des qîrâts du derham, le quotient sera 1′ 33″ 45‴ : ce nombre est la *part* du qîrât. Là s'arrête la division du ratl et de ses parties.

C'est d'après ces principes que j'ai dressé les tables qui précèdent. Lorsque la division des ratls à convertir donne un reste et que tu veux savoir combien d'onces il représente, cherche-le dans la table[3] du rapport de l'once au ratl : tu trouveras le chiffre auquel il correspond. Puis si après cela, il y a encore un reste, cherche celui-ci dans la table du rapport du derham à l'once : tu trouveras la quantité de derhams entiers (qu'il représente). Si, après cette opération, il y a encore un reste, cherche-le dans la table du rapport du qîrât au derham, tu trouveras les qîrâts entiers. Enfin s'il se présente encore un reste, après cette dernière opération, prends-en le rapport au qîrât. Quant au rapport de chaque chose à soixante, il ne saurait échapper à quiconque apportera la moindre attention.

[1] Cette remarque est placée, dans le MS., en regard du dernier tableau, fo. 43*v*.

[2] حصّة.

[3] فقوسه فى جدول الخ. Litt. "Arque-le dans la table," etc.

[fo. 44*r*.] TABLE DE CONVERSION DE QENTÂRS LES UNS DANS LES AUTRES.

Qentars en lesquels on convertit. / Qentârs à convertir.	En Mesry.	En Syrien.	En (qentâr) de Foûwah.	En djarouy.	En Layty.	En manns.	En (qentâr) de Damiette.
	R O D Q	R O D Q	R O D Q	R O D Q	R O D Q	R O D Q	R O D Q
Qentâr mesry	100	24 3 7 12^{7}	40 0 0 0^{13}	46 1 10 0^{19}	72 0 0 0^{25}	55 4 7 6^{31}	43 7 7 3^{37}
Qentâr Syrien	$6^{8}51^{\circ}$ 5 6 0^{1}	100	166 8 0 0^{14}	192 3 8 0^{20}	300 0 0 0^{26}	230 9 2 0^{32}	181 9 9 7^{38}
Qentâr de Foûwah	250 0 0 0^{2}	60 0 0 0^{8}	100	115 4 7 0^{21}	180 0 0 0^{27}	138 5 11 40^{33}	109 1 2 2^{39}
Qentâr djarouy	216 8 0 0^{3}	52 0 0 0^{9}	86 8 0 0^{15}	100	156 0 0 0^{28}	120 0 0 0^{34}	94 6 6 0^{40}
Qentâr layty	138 10 8 0^{4}	33 4 0 0^{10}	55 6 8 0^{16}	64 1 2 0^{22}	100	76 11 1 10^{35}	60 7 10 0^{41}
Cent manns	180 6 8 0^{5}	43 4 0 0^{11}	72 2 8 0^{17}	83 4 0 0^{23}	130 0 0 0^{29}	100	78 9 12 8^{42}
Qentâr de Damiette	229 2 0 0^{6}	55 0 0 0^{12}	91 8 0 0^{18}	105 0 0 0^{24}	165 0 0 0^{30}	126 11 1 10^{36}	100

[1] En développant $6^s\ 51°$ on a 411 ;

	r	o	d	q
[2] $\frac{592\frac{1}{2}\times100}{144}=$	411	5	6	0
[2] $\frac{360\times100}{144}=$	250	0	0	0
[3] $\frac{312\times100}{144}=$	216	8	0	0
[4] $\frac{200\times100}{144}=$	138	10	8	0
[5] $\frac{260\times100}{144}=$	180	6	8	0
[6] $\frac{330\times100}{144}=$	229	2	0	0
[7] $\frac{144\times100}{592\frac{1}{2}}=$	24	3	7	$11\frac{56}{59}\frac{2}{2}\frac{5}{5}$.

On voit qu'El Djabarty a légèrement forcé le chiffre des qîrâts.

[8] $\frac{360\times100}{600}=$	60	0	0	0
[9] $\frac{312\times100}{600}=$	52	0	0	0
[10] $\frac{200\times100}{600}=$	33	4	0	0
[11] $\frac{260\times100}{600}=$	43	4	0	0
[12] $\frac{330\times100}{600}=$	55	0	0	0
[13] $\frac{144\times100}{360}=$	40	0	0	0
[14] $\frac{600\times100}{360}=$	166	8	0	0
[15] $\frac{312\times100}{360}=$	86	8	0	0
[16] $\frac{200\times100}{360}=$	55	6	8	0
[17] $\frac{260\times100}{360}=$	72	2	8	0
[18] $\frac{330\times100}{360}=$	91	8	0	0
[19] $\frac{144\times100}{312}=$	46	1	10	$2\frac{18}{39}$.

L'auteur a négligé les qîrâts et leur fraction.

[20] $\frac{600\times100}{312}=$	192	3	8	$4\frac{36}{39}$.

L'auteur a négligé les qîrâts et leur fraction.

[21] $\frac{360\times100}{312}=$	115	4	7	$6\frac{6}{39}$.

L'auteur a négligé les qîrâts et leur fraction.

[22] $\frac{200\times100}{312}=$	64	1	2	$12\frac{12}{39}$.

Dans le colonne des derhams, le copiste, au lieu d'un ب=2, a écrit un و=6.

[23] $\frac{260\times100}{312}=$	83	4	0	0
[24] $\frac{330\times100}{312}=$	105	9	2	$12\frac{18}{39}$.

Le tableau ne porte que 105 ratls avec des zéros pour les autres colonnes.

[25] $\frac{144\times100}{200}=$	72	0	0	0
[26] $\frac{600\times100}{200}=$	300	0	0	0
[27] $\frac{360\times100}{200}=$	180	0	0	0
[28] $\frac{312\times100}{200}=$	156	0	0	0
[29] $\frac{260\times100}{200}=$	130	0	0	0
[30] $\frac{330\times100}{200}=$	165	0	0	0
[31] $\frac{144\times100}{260}=$	55	4	7	$6\frac{2}{13}$.

Le copiste semble avoir écrit $13^d\ 9^q$.

[32] $\frac{600\times100}{260}=$	230	9	2	$12\frac{4}{13}$.

Le copiste a écrit, au lieu de ب = 2, ك 5 ; les qîrâts et leur fraction ont été négligés.

[33] $\frac{360+100}{260}=$	138	5	6	$7\frac{5}{13}$.

Le copiste a écrit 11 (derhams) et 40! (qîrâts).

[34] $\frac{312\times100}{260}=$	120	0	0	0
[35] $\frac{200\times100}{260}=$	76	11	0	$14\frac{10}{33}$.

Le copiste a écrit 1 (derham), 10 (qîrâts).

[36] $\frac{330\times100}{260}=$	126	11	0	$14\frac{10}{13}$.

Le copiste a écrit 1 (derham), 10 (qîrâts).

[37] $\frac{144\times100}{330}=$	43	7	7	$10\frac{6}{33}$.

Le copiste a écrit 3 (qîrâts).

[38] $\frac{600\times100}{330}=$	181	9	0	$13\frac{1}{11}$.

Le 7, nombre de qîrâts que porte le texte est erroné.

[39] $\frac{360\times100}{330}=$	109	1	1	$1\frac{15}{33}$
[40] $\frac{312\times100}{330}=$	94	6	6	$8\frac{8}{11}$.

Le copiste a écrit par erreur 45 (مه) pour les derhams et 0 qîrât.

[41] $\frac{200\times100}{300}=$	60	7	3	$4\frac{12}{13}$.

Je lis س=60 ; au lieu de صو (96) que semble porter le MS.

[42] $\frac{260\times100}{330}=$	78	9	5	$7\frac{3}{11}$.

Le copiste a écrit 12 (derhams), 8 qîrâts.

[fo. 44*v*.] Quant à la conversion des ratls en oques et *vice versâ*, notre Cheikh El Ghomary y a consacré un traité qu'il a intitulé *Machghalat el battâl fî tahwîl el artâl ila el oqaq wa el oqaq ila el artâl* (L'occupation du désœuvré touchant la conversion des ratls en oques et des oques en ratls). Voici comment il s'exprime :

"Le ratl *mesry* se compose exactement de 144 derhams, et le ratl *roûmy*, de 176 derhams.[1] Le qentâr *mesry* contient 36 oques ; le qentâr *roûmy* en contient 44. Le nombre des derhams de l'oque est invariablement de 400 ; car si tu multiplies les derhams du ratl par le nombre des ratls du qentâr et que tu divises le produit par le nombre des oques du qentâr, tu obtiens les derhams des oques.

Exemple des deux cas.

144	176
100	100
14400	17600
36	44
400	400

"Le qentâr *mesry* se compose de 100 ratls ; le qentâr *roûmy* contient 122 ratls (mesry) et $\frac{2}{9}$ ou 32 derhams.[2] Ce que sachant, si tu désires convertir les derhams *mesrys* en *roûmys*, multiplie les *mesrys* par 9 et divise le produit par 11.[3] Pour ce qui est de la conversion des *roûmys* en *mesrys*, multiplie les *roûmys* par onze et divise le produit par neuf.

"La conversion des oques *mesrys* en oques *roûmys* et *vice*

[1] Le tableau placé en tête de cet extrait donne pour le ratl *istâmboûly* (de Constantinople) et *roûmy*, 176 derhams ; un autre ratl *roûmy* n'est pas accompagné du chiffre de ses derhams. Le Métropolitain de Nésibe fait le ratl *roûmy* de 72 metqâls, soit $102\frac{2}{7}$ derhams. Peut-être ce dernier chiffre s'applique-t-il au ratl de l'Asie-Mineure (pays du Roûm), tandis que le premier désigne plus particulièrement celui de Constantinople et des Grecs-Byzantins. On sait qu'en Turquie et en Egypte on appelle encore aujourd'hui *Roûmy* ceux qui professent la religion grecque.

[2] $\frac{176\times100}{144}=122\frac{2}{9}$; $\frac{2\times144}{9}=32$.

[3] $\frac{144}{176}=\frac{9}{11}$.

versâ s'opère absolument de la même manière que la conversion des derhams.[1]

"La conversion des ratls *mesrys* en ratls *roûmys* s'obtient en multipliant les *mesrys* par 144, et divisant le produit par 176, *mahloûlan*.[2]

"*Utilité.* Les 'côtés' de chacun des

$$\begin{matrix}144\\289\end{matrix}\ [\text{fo. } 45r.]\ \begin{matrix}176\\2812.\end{matrix}^{3}$$

"On convertit les ratls *roûmys* en ratls *mesrys* au moyen de la multiplication des roûmys par 176, et de la division du produit par 144.

"On fait la conversion des ratls *mesrys* en oques *mesrys*, en multipliant les ratls par trente-six et séparant deux 'cases' du produit;[4] ce qui se trouve à la suite[5] de la partie séparée représente des oques *mesrys* entières, et le produit de la multiplication par quatre de la partie séparée les derhams d'une oque *mesry*.[6]

"Pour convertir des oques *mesrys* en ratls *mesrys*, on opèrera à l'inverse de ce que précède, c'est-à-dire qu'on les fera suivre[7] de deux zéros, si elles ne sont pas accompagnées

[1] $\frac{36\times11}{9}=44$; $\frac{44\times9}{11}=36$.

[2] محلولا. Je ne connais par l'équivalent français de cette expression technique.

[3] Cette phrase dont je ne comprends pas le sens est ainsi conçue:

فايدة اضلاع كل من قمد قعو
٢٨١٢ ٢٨٩

[4] C'est-à-dire en séparant du produit les deux derniers chiffres. L'auteur s'exprime ainsi: وشطب خانتين من الحاصل.

[5] C'est-à-dire "à la gauche."

[6] Soit en effet 22 ratls *mesrys* à convertir en oques. Nous aurons $\frac{22\times36}{100}=7,\ 92$; c'est-à-dire 7 oques et $\frac{92}{100}$. Or $\frac{92}{100}\times400$ (nombre des derhams contenus dans l'oque) $=92\times4=368$ derhams.

[7] Le texte signifie "les faire précéder"; mais on n'ignore pas que les arabes écrivant, et posent et énoncent leurs chiffres en allant de droite à gauche; leur manière de s'exprimer est donc juste pour eux, mais ne l'est plus pour nous qui écrivons au contraire, posons nos chiffres et les énonçons en commençant par la gauche.

de derhams, ou du quart des derhams, s'il y en a, et on divisera le résultat par trente-six.[1]

" Il en est de même de la conversion des ratls *roûmys* en oques *roûmys*, et des oques *roûmys* en ratls *roûmys*, si ce n'est qu'au lieu du (nombre) trente-six, on emploie le (nombre) quarante-quatre.

Exemple de la conversion de ratls (mesrys) en oques *mesrys*, et de (ratls) *roûmys* (en oques *roûmys*) :

20	51
36	44
7 | 20	22 | 44
4	4
80	176

Exemple de la conversion d'oques *(mesrys)* accompagnées de derhams, en ratls *(mesrys)*, et d'(oques) *roûmys*, (accompagnées de derhams,) (en ratls *roûmys*) ; avec fraction dans les deux cas :

720	2244
444	444
180	561
99	111
20[2]	51[3]

" La conversion des oques *mesrys* en ratls *roûmys* se fait en multipliant les premières par quatre ; on fait ensuite suivre

[1] Soit 7 oques M et 368 derhams à convertir en ratls M. Nous aurons $\frac{7\times100}{36}+\frac{368\times100}{400\times36}=\frac{7\times100}{36}+\frac{368}{4\times36}=\frac{792}{36}=22$ ratls M.

[2] Pour comprendre l'opération présentée par l'auteur, il faut deviner qu'il fait une double division : il décompose 36 en ses deux facteurs 4 et 9 et divise 720 par 4, et le quotient 180 par 9. Le dernier quotient est 20.

[3] Ici les deux facteurs de 44 sont 4 et 11. L'auteur divise 2244 par 4 et le quotient 561 par 11. Le dernier quotient est 51.

Conf. sur la division par un seul chiffre ou par un nombre décomposé en ses facteurs, la traduction par Woepcke, p. 18 et 19, du traité d'arithmétique d'*El Kalçadi*.

le produit de deux zéros et on divise l'ensemble par cent soixante-seize, avec ou sans *hall*.[1]

"Pour convertir des oques *roûmys* en [fo. 45*v*.] ratls *mesrys*, on multiplie également les premières par quatre ; on fait suivre le produit de deux zéros, et on divise l'ensemble par cent quarante-quatre, avec ou sans *hall*, comme dans le cas précédent."

Fin (de la citation), mot pour mot.

[1] محلولا او بلا حلّ. Cette expression me paraît signifier "avec ou sans développement de la fraction." Le verbe حَلَّ signifie "dénouer"—"déployer."

ART. XIV.—*The Migrations and Early History of the White Huns; principally from Chinese Sources.* By THOS. W. KINGSMILL.

ONE of the most interesting migrations on record is that of the Yuehti from their old seats in the north-west of China to the site of the Greek kingdom of Bactria. Its interest is increased rather than diminished by the fact that we can trace its origin by the aid of authentic records, as well as from the knowledge that it was but one in a series, the original exciting cause of which still remains veiled in an obscurity apparently only to be pierced, on the one hand, by the geologist who shall work out the changes in the physical geology of Asia, within the human period, or, on the other, by the comparative mythologist, who, placing side by side the myths and traditions of its ancient inhabitants, sees, though dimly, some sort of order rising out of what, at first sight, is a veritable chaos.

The march of the Yuehti from Kansuh to Bactria was, perhaps, one of the latest of these remarkable changes, though accomplished in a much shorter time than any of those which inundated Western Asia and Europe. The causes which induced it had been long at work, and it is the more noteworthy that it took place in a direction contrary to all previous movements of a similar kind, viz. east of the Pamir. It cannot, therefore, be considered independently of the two events, which more immediately led to the relinquishment of their ancient seats by the inhabitants of Kansuh, viz., the establishment of the Chinese power, and the continued pressure of the Turkish tribes.

When the original founders of the Chinese polity, the Chows (or rather the Djows), after having been driven out of their territory[1] at Ban, had crossed the Liang shan (or Pamir),

[1] Siang shan or Tsung shan are two names identical in origin and vary only dialectically. The original root was Dar, which probably survives to the present day in Dardistan, etc.

and had found a temporary relief from the attacks of their relentless foes, the Diks, at the foot of the present Tien shan, they transferred to their new seats many traditions and myths, the common property of the old Aryans of Central Asia. On the southern slopes of the mountains they founded the settlement of Kî-djow, and, in it, there sprang up a new crop of myths and legends; and, again, the daylight legends of the ever-present Twins (the Dioskuri of the Greeks), which, in Chinese, by the ordinary phonetic changes, reappear in the stories of the Djow Kung[1] and Wû-wang, leap into fresh life. Here, too, we find the equally persistent tales of the original founder of the Aryans —Manu, Minos, Mannus, or, as in Chinese, Man or Wan.

It is in connexion with the last that we first meet with traces of the Viddhals, as I shall, for reasons below stated, call the original tribe of the White Huns or Ephthalitæ of the later Greek writers.

The third part of the *Shi King*, or *Book of Poetry*, is mainly occupied with the old traditions of the Djows. The seventh ode of the first book describes the foundation of the new settlement. The immigrants clear away the woods which they find upon the southern slopes of the Tien shan, and prepare the land for cultivation; the savage hordes, the Chûn-i[2] (or Dânavas) fly before the new-comers, who establish a kingdom in the plains of Kî. Man comes to the throne and organizes the rising state. He is not, however, unmolested; the people of Mat appear on the scene and refuse to recognize him.

The men of Mat did not submit:
  They dared to oppose the great state;
They plundered the entire of Yuen.
  The king was majestic in his wrath.
He set in order his troops,
  To stop the advancing enemy;
To ensure the prosperity of Djow;
  To bring into harmony the kingdom.

[1] Djou from root Dyo; Kung = Cur, Gr. κῦρος.
[2] Erroneously translated by Dr. Legge, Chinese Classics, vol. iv., as the Kwan hordes.

They resolved to attack us in our capital.
Invading us from the borders of Yuen,
To scale our lofty heights.
They shot no arrows on our hills,
Our hills nor ridges.
They drank not of our wells,
Our wells nor fountains.
(Our king) then marched into the plains,
We fixed our dwellings south of Mount Kî,
Along the banks of the Wei;
A site for a myriad states,
A king for a glorious people!

It is difficult here to define where myth ends or legend begins. The character made use of for *Mat*, with a variation not affecting its pronunciation, stands also for 'honey.' The word is, in fact, the equivalent of a series running through nearly all the Aryan languages from the east of Asia to the west of Europe. Thus we have Sans. *madhu;* Gr. *μέθυ*; Zend. *madhu;* English *mead*, etc. We may, therefore, assume that the ancient final in Chinese was *dh*, and that the word was pronounced by the Djows as *Madh*. This at once brings it into connexion with the Indian legend, in which Vishṇu, or Kṛishṇa, kills the demon Madhu—the Dânava, or one of the Râkshasas, who was plotting to kill Brahma. The legend of Kṛishṇa and the Râkshasas has, generally, been assumed to preserve the recollection of some primeval contest of the Aryans with the aboriginal tribes.

However this may be, the word clung to Chinese tradition, hence, we find, when the tales of Djow are becoming hardened into authentic history, a kingdom of Mat or Mat-sû. *Sû*, the beard, the cirri of fish, the stamens of plants, etc., is connected with the root dal, *findi;* so that, in the modern Matsû, we have to read Madhdal, or the more pronounceable Maddhal. The country of Madh or Maddhal comprised mainly the eastern part of the present province of Kansuh, extending as far as the river King, a tributary of the Wei, a river flowing past Singhan-fu, the capital of the northern province of Shensi.

According to the generally received chronology, the contest of Man with the Madhs must have taken place in the

twelfth century B.C. The Djows were not long to enjoy their new settlement, for, in the next generation, still apparently pressed from the west, we find them encroaching on the tribes, which had preceded them in China proper: Wû-wang and his brother Djow-gung overthrow the Yins, and establish the seat of government at Fûng near the present Singhan-fu in Shensi. Even here they find little rest. The defeated scions of the Yins incite the people from the west to attack the new state; the Djows are not strong enough to hold their own, and have, therefore, once more, to move eastward and fix their capital at Lôk, near the site of the present Honan-fu in Honan province.

With varying success in their new home, the Djows succeed in the main in establishing a sort of pre-eminence amongst the other States, most of whom claim a descent from the elder house of Djow. Their last movement has separated them for a time from their old enemies the Madhs; of whom we hear no more till the time of King Kung, whose reign is assigned to the middle of the tenth century B.C.

Our authority for these statements is the *Kwoh-yu*, or *Conversations of the Kingdoms*, a book full of quaint stories, but respectable withal in its aim, the promotion of good government, and of undeniable antiquity. The *Kwoh-yu* tells how the King Kung, stopping one time with the Duke of Madh, west of the river King, above mentioned as the boundary of the two kingdoms, he took a fancy to three of the Duke's concubines. The Duke's mother advised her son to let the King have the ladies; but, he refusing, a coldness sprung up. The result was that in the following year the King invaded Madh, and, according to the record, extinguished the country. I have not been able to discover any later trace of the tribe under the name of Madh.

So far we have had little more than the dim light of comparative mythology to guide us, for even King Kung can scarcely be considered to have lived within the period of authentic history. Though Indian legend, in its later development, carries the fable of Madhu as far as Lanka, the coincidences with the Chinese are too close to permit us to assign independent origins to the two. Both the Indian

and Chinese Aryans may be traced back by their traditions to the table-land of Central Asia. According to the unanimous tradition of the Chinese, the tribe of the Djows was driven from its original seat in the land of Ban (? Varend of Iranian lore) by the irruptions of barbarous tribes.[1] They are usually called by the general name of Diks, but in the *Book of Poetry* this name is particularized under the title of Hînyuk or Hündjuk, standing apparently for Hündik. Allied with these tribes are the Hîmwans (Hien-yun of modern Chinese). Both of these tribes are by the early Han writers[2] connected with the Jung[3] of the Djow authors; a name, which, by the time of the Hans, had become changed to Nû in the title of the Hiung-nû, or Kara-Nûrs. These latter were by De Guignes identified with the Huns, an erroneous opinion which has led to much confusion, and which, notwithstanding that Klaproth pointed out the true affinities of the Hiung-nû, as being the original stock of the Turks, continues to the present day to confuse the pages of ancient history.

The Jung are frequently by the old writers called the Dik jung or Jung dik, and the character for Dik itself 狄 'dog' placed by the side of 'fine,' seems to point to some connexion with the old Aryan myth of the Azhi Dahâka. In the 6th century A.D., when the Turks again make their appearance in history, the Chinese have found a new name for them, as Duh-kiueh. The persistence of the phonetic element as *dik*, *duk*, or *Turk;* as well as the direct statements of the Chinese writers that the tribes were identified; seem to point out that the pressure of the Turkish tribes on the Aryans began at an early period in the history of the latter.

[1] Mencius, book i. 2. xiv., says, "Formerly when King T'ae dwelt in Pin (Ban), the barbarians of the north were continually making encroachments upon it. He therefore left it, went to the foot of Mount K'e, and there took up his residence. He did not take that situation as having selected it. It was a matter of necessity with him."—Legge's Chinese Classics, vol. ii. p. 50; cf. also pp. 31 and 52-3, and Shi King (Book of Poetry), iii. 1. iii.; Legge's Classics, vol. iv. p. 437.

[2] Shi-Ki, chap. 110. Cf. also T'sien Han Shoo, translated by Mr. A. Wylie, Journal of Anthropological Institute, vol. ii. no. iii.

[3] *J*, the weakest of semi-vowels, is, in Chinese, constantly interchanged with *n*. *Ng* final was anciently, in most cases, pronounced *r*.

As above stated, the tribe of the Hîmwans was connected with the other Turkish tribes. They pressed more or less pertinaciously on the Djows in the early portion of their career in China:[1] their name points to a relationship with the Komans, an acknowledged Turkish tribe, who, after the dispersal of their nation by the Han emperors of China, seem to have moved westerly round the south of the Caspian Sea, as traces of them are still to be found in Southern Russia and the Caucasus.

According to the above view, the Mats, Madhs, or Maddhals, and the Madhu of the Indian legends, would seem to have been a tribe of non-Aryans, originally settled near the early seats of the Aryan tribes, in Central Asia. Pressed upon by the restless Turkish tribes, the two races came into hostile conflict before the setting out of the great Aryan migration to the South and East. Hence their name has been preserved in both Chinese and Indian legends.

As we have seen from the Chinese ode, they attacked the Aryan Djows in their settlements at the foot of the Tien shun. They, however, do not at any time seem to have been sufficiently powerful to make any lasting impression on the Djows, whose hard struggle for existence was with the Turkish tribes of the Himwans (Komans) and the Jung, Kiang jung or Yam jung (Kara-nûrs).

Accordingly, when the Djows were finally forced to fix their capital in Honan, we find that the Madhs, also, had to make a corresponding march, and that the river King, about east longitude 108°, was at the dawn of true history the boundary between the two peoples. Tradition says that the Madhs were extinguished, but as the Djows were, at the time, falling into a state of helpless dependence on their neighbours, it is far more likely that they were separated from the Madhs by the intrusion of the Tsins, the Seres of the Romans, who, about this time, begin to appear in history, taking up their abodes in the former residences of the Djows in Shensi and Kansuh.

[1] Shi King (Book of Poetry), ii. 1. vii. kc. Legge's Chinese Classics, vol. iv. p. 259. Dr. Legge, in a note to the above work, gives the Chinese authorities for the connexion of the Himwans with the tribes subsequently known as the Duh-Kiueh.

When the curtain of authentic history at last rises, we find the districts assigned to the kingdom of the Madhs occupied by a race which, under the modern Chinese pronunciation of their name Yuèti, has been one of the standing enigmas of ethnology. I have elsewhere[1] explained the philological reasons which led me to restore Viddhal as the ancient pronunciation of the name. Vivien de St.-Martin was the first to point out the probable connexion of the Yuèti with the Ephthalitæ, *Ἐφθάλιται* of Procopius; a clue which was followed up by Reinaud in his "Relations politiques et commerciales de l'empire Romaine avec l'Asie Orientale." As my own identification of the name was independent of the historical reasons which had

[1] When engaged last year (early part of 1874) in preparing some notes on the probably recent elevation of Central Asia, I had occasion to insert some remarks with regard to the tribes handed down in Chinese history as the 月 氐 (in modern Chinese Yuèti). None of the identifications usually accepted for those tribes seemed to tally with the circumstances of the case, and finding myself without external evidence, I suggested from philological motives alone that the word Vidal would be found an approximation to the actual name of the tribes. I was unaware at the time that M. Vivien de St.-Martin had, in a review of the destruction of the Greco-Bactrian kingdom, from historic grounds identified the so-called Yuèti with the White Huns, the Haiáthalah, the Ephthalitæ of the Greek writers, who, about the year 134 B.C., overran that country, and finally destroyed the Grecian dynasty which from the time of Alexander's death had been paramount. Vidhal rather than Vidal should have been the rendering of the old Chinese name, and as this may be considered as identical with the Greek name for the tribe,—the Ephthalitæ, as well as its Arabic form Haiâthalah, it may be interesting to review the grounds on which this reconstruction of the ancient sounds of the characters was founded. The characters made use of to express the name of the tribes have in their present form no meaning; they were at first only used as phonetic elements. To arrive at their archaic sounds it will be necessary, however, to analyse their separate meanings; and endeavour if possible to find their analogues in some language making use of an alphabet. Such we find in Sanskrit,—a language having many relations with primitive Chinese. Taking then the Chinese characters separately, we find the first 月 *Yuè* 'the moon,' in Cantonese, the nearest existing dialect to that spoken at the beginning of Chinese history, Üt or Yüet; the second 氐 *tî*, in Cantonese *tai*, meaning 'fundamental,' 'radical,' 'reaching to the ground.' Comparing these words with Sanskrit, we find the first represented by a word *vidhu*, with the same meaning. Bopp gives no derivation, nor does he mention any analogues among Aryan languages. It may therefore be fairly accepted as a non-Aryan term for the moon which found acceptance in Sanskrit. The form *tai* for the second syllable seems to point to a lost liquid termination, *l* or *r*, more probably the former. *Tai* will thus agree in its original sound with the Sanskrit *tal* 'condere.' This root is one of extensive distribution; in Sanskrit it gives *tala* 'solum,' 'fundus'; in Latin *tellus*; in Chinese 地 *ti* 'the earth,' 底 *tai* 'fundamental,' etc. From analogy therefore the combination of the two characters would have been pronounced *Vidh-tal*, *Vidal*, or *Vidhal*; thus corresponding with the actual name of the tribes as handed down from other sounds.—See Trans. North China Branch of the Royal Asiatic Society, new series, no. x. Shanghai, 1876.

led the above author to believe in the connexion of the two peoples, it is entitled to some little respect.

I am further disposed to look upon the Viddhals as the Madhs or Maddhals under another title.

As is well known, the Chinese written characters are generally divided into two portions, a primitive or phonetic, more or less intended to indicate the sound, and a radical defining the class and modifying the meaning. Of such a nature is the character for *Madh*. Its primitive in one or two cases shows an affinity for an initial *f*, as well as for *m*. The two sounds were apparently not readily distinguishable. Between the time of the early Djows and the completed empire under the Hans, the language underwent such changes that, in the characters made use of for the designations of neighbouring tribes, we meet with constant substitutions. That of the modification of *Jung* with *Nû* is a case in point.

Before entering on the historical narrative, it may not be out of place to refer to the origin of the Huns as related in their own traditions. Mr. H. H. Howorth,[1] in his paper on the "Westerly Drifting of Nomades," refers to the myth of the origin of the Khazars, a tribe closely allied to the Bazeleens; wherein Bizal is made the brother of Khazar, their eponymous ancestor. The Khazars themselves, prior to their western migration, are said to have come from the land of Bezelia. From Maddhal or Viddhal to Bezel is but a step, and a by no means long one. On the assumption that the Ephthalitæ really were Huns, which has been a generally received opinion, we have apparently sufficient evidence to connect the two.

We have thus, by the dim light of tradition, traced the *Viddhals* from their original seats in Central Asia, across the Pamir to the slopes of the Tienshun, and thence to the province of Kansuh in China. Our next step will be on the more solid ground of history.

Mr. Wylie, in his translation of the records of the Hiung-nû from the T'sien Han shu,[2] describes the locality of the

[1] Journal of the Anthropological Institute of Great Britain and Ireland, vol. ii. no. iii.

[2] Journal of Anthropological Institute, vol. ii. no. iii.

Viddhals at the time of the accession of Shi Hwang-ti, B.C. 221. "At that time," says the record, "the Tung-hû, 東胡, had become a formidable power, and the Yueh-ti (Viddhals), 月氐, were in a flourishing condition. The Shen Yu (? Dinkul or Darkul) of the Hiung-nû was named T'ow man. The latter meeting with a reverse in his contest with T'sin moved northward."

The previous period had been an age of internecine conflict between the various states which formed the loose aggregate of the Djow dominion; and ample opportunity had been afforded to the neighbouring tribes to consolidate their power. Tsin (Sîr) had at last gained the pre-eminence, and founded the modern empire of China; and its ruler's first care was to turn his arms against the Turkish tribes, still pressing on the northern and north-western frontiers; and whose presence he saw was a real and tangible danger to the new empire. To enable his troops to keep the Turks the more effectually from encroaching, he completed a series of defensive works, already partially existing, and which extended from the extreme west of China to the gulf of Pechili. The death of his ablest general, Mungtien, however, rendered these works of little practical value, and the Turks advanced across the Yellow River to the old stockades which marked their previous limits.

The T'sien Han-shu, above quoted, describes the relative position of Chinese and Turks during the latter portion of the short-lived Tsin dynasty. Maoudun, the Shen-yu, about 206 B.C., engaged in hostilities with the Viddhals, whom he defeated.

Within the next quarter of a century the final attack on the Viddhals seems to have taken place, consequent on the success of the Chinese arms against the Turks during the early days of the Han dynasty. In the year 176 B.C. we find the Shen-yu addressing a letter to the Emperor of China requesting a renewal of the pacts already existing between the two nations. He remarks that in consequence of a raid into Chinese territory of the Right Sage prince, the Chinese generals retaliated and drove the Turkish forces into the territory of the Viddhals; while Lowlan, Wûsun, Hûki and

the adjacent kingdoms to the number of twenty-six, all submitted to the Hiung-nû. These events seem to have occurred in the previous year, 177 B.C., which may therefore be considered as the commencement of the south-westerly movement of the Viddhals.

At the time of its greatest prosperity the Viddhal dominion extended from about 95° to 109° east longitude, and from 36° to 40° north latitude; comprising, therefore, the greater part of the present province of Kansuh east of the desert of Gobi. Its population could never have been great, as it appears to have existed in a great measure on sufferance: both Chinese and Turks, however divergent in other respects, agreeing in considering the Viddhals an alien race.

When next we meet with the Viddhals, we find them settled in Bactria. We are indebted to the *Shi ki*, or *Historical Record*, for our information on this point, and I shall follow the writer Szema Tsien in his description of the geography and ethnology of the districts lying adjacent to the table-land of Central Asia. Szema Tsien has not inaptly been styled the Father of Chinese history, and his work has deservedly served as a model for the succeeding dynastic records. Szema devoted the 123rd chapter of his work to a description of Dawan and the adjoining countries. This description is founded in the official reports of Djang-kien, a native of Han-chung, and an official under the Emperor Wû-ti of the Hans.

The story was told to the Emperor how the Hiung-nû had utterly defeated the Viddhals and had made a drinking vessel out of the skull of their king; and how, in consequence, the Viddhals had fled from their country, inspired with a lasting hatred of their oppressors, and still maintaining the hope of one day revenging themselves. He determined on sending an embassy, and, as the route to the Viddhals lay through Hiung-nû territory, asked for capable men. Djang-kien and Tang-yip were accordingly sent, and started from Lung-si (Kansuh) B.C. 138. Passing through the Hiung-nû, they were captured and taken before the Shen-yu, who detained them, saying: "The Viddhals lie beyond us, what is the object in sending an ambassador? If

we wished to send a mission across China, would you consent to hear of it?" He detained him more than ten years. Kien married and had children, but preserved his fidelity. Living in the midst of the Hiung-nû, their vigilance relaxed. With the aid of his connexions he made good his escape. Travelling westward for ten days, he arrived at Da-wan.[1] Da-wan had heard of the riches and wealth of China, and was desirous of intercourse, but could not communicate. Kien was gladly received, and was asked the object of his visit. He told them that he was an envoy from China to the Viddhals, and in consequence had been detained by the Hiung-nû, but had managed to escape. If the King would send an embassy offering to submit to China, he would conduct it back, promising at the same time presents and subsidies. His words did not prevail; negociations were closed, and Kien was sent on by the high road to Gang-gu[2] 康 居.

Gang-gu adjoined the country occupied by the great Viddhals. The King of the Viddhals, Sze 巳, had been killed by the Turks, and they had set up his heir in his stead. They had overcome Ta-hia 大 夏[3] and taken up their residence in that country, which was rich and fertile. Robbers were few; the people liked peace and comfort; they were at a distance from China, but they had rather be exterminated than submit to the Turks.

From the Viddhals Kien went on to Ta-hia, not being able to induce the Viddhals to agree to his proposals. He was detained another year at Bing-nan-shan. He was desirous of returning by Thibet, but was again captured by the Hiung-nû, and detained a year longer till the death of the Shen-yu, B.C. 126. The Left Guk-li prince contested the succession with the heir, and the country was thrown into a state of confusion. Kien, through his Turkish wife, along with Tang-yip, escaped back to China, where they were honourably received, and promoted to high office. Of more

[1] Da-wan, as will appear below, seems to represent the districts adjoining Kashgar and Yarkand.

[2] Gang-gu apparently the country about Karakul, possibly the Riangkul Pamîr.

[3] Ta-hia, Bactria, lately overrun by the Tochâri, and subsequently known as Tochâristan.

than a hundred individuals who had gone out with Kien thirteen years previously, but two succeeded in getting back.

Da-wan[1] 大宛 lies to the south-west of the Hiung-nû territory, and due west from China about 10,000 *li*. Generally speaking, the country is settled, and the fields cultivated. It produces rice and wheat; the people make use of distilled liquors. Horses are good and plenty, they sweat blood, they are descended from the Tién-ma-dsze. It has cities with walls, and large and small houses. Its dependent towns are more than seventy in number. The population is about 100,000. The soldiers use the bow and spear, and shoot from horseback. To the north lies Gang-gu; west, the country of the Viddhals 大月氐; south-west, that of the Tochâri 大夏; north-east, Wû-sun 烏孫; east, Han-mow[2] 扞某 and Yu-tien[3] 于寘.

To the west of Yu-tien all the rivers have a westerly flow to the West Sea 西海; east of it the waters flow easterly to the Salt Marsh 鹽澤. The Salt Marsh flows underground, and communicates in the south with the head waters of the Ho.[4] There is much jade stone along the course of the Ho towards China. Lau-lan[5] 樓蘭 and Gu-sze[6] 姑師 have walled cities adjacent to the Salt Marsh. From the Salt

[1] I have been compelled, on a careful consideration of the map of Central Asia, to place most of the localities named in Djang-kien's report considerably eastward of their usually accepted positions. Da-wan has usually been identified with Ferghana, but its position between Gang-gu, Da-hia, the Viddhals, and bounded eastwardly by Khoten and Hanmow, compels me to fix it on the site of the modern Kashgar and Yarkand. I am unable to offer any satisfactory clue to the name.

[2] Hanmow or Hanmi, a state not marked on the maps. It must have lain N.E. of Khoten.

[3] Yu-tien, the present Khoten. A. Remusat was the first to point out the Aryan origin of the name as Koustana, 'the breast of the world;' more correctly, perhaps, Kulstana, 'the apex,' from the root *kul*, in *collis*, Greek κολωνὸς, Chinese 高, etc., and *stana*, 'mamma,' as *Kulagiri* from *Kul* and *giri* 'mountain.'

[4] Ho, the Yellow River.

[5] Lou-lân, apparently the Charchan of Marco Polo; *l* representing the *d* or *ch*. It does not appear on the maps. *Vide* Yule's Marco Polo, 1st ed. p. 178. In the later Chinese works it appears as Shen shen. Yuen-chwang (Hiouen Thsang), after leaving Khoten, travelled east 300 *li* to Pimo, thence 200 *li* to Nijang, then 400 *li* of desert to Tonholo; from whence 600 *li* took him to Chemotona in the kingdom of Tsiemo. Thence 1000 *li* N.E. lay Nafopo belonging to Lau-lan, from which he went on to Shachow. Fah-hian likewise went from Shachow to Khoten by the same tract. Lau-lan and Shen shen, as well as Polo's Charchan, point to the original name as Dardana.

[6] Kushi, called also Kiushi by the commentator, apparently stands for Aksu. This is so common in names that identification seems impossible.

Marsh to Chang-an is about 5000 *li*. The Hiung-nû live to the right, east of the Salt Marsh. There is a road leading south from Chang-ching in Lung-si to Thibet 羌.

Wû sun[1] 烏孫 lies north-east of Da-wan about 2000 *li*. Its people are herdsmen and of similar manners to the Hiung-nû. Its bowmen are about 10,000 in number; they are daring and quarrelsome. Formerly they were subject to the Hiung-nû. They are in a prosperous condition. They marry their near relations, and refuse to pay homage at Court.

Gang-gu[2] 康居 lies to the north-west of Da-wan. It is as large as the country of the Viddhals, and the manners and customs of the people are similar. It can muster 80,000 or 90,000 bowmen. It is not so large as its neighbour Da-wan. On the south it has relations with the Viddhals; on the east with the Hiung-nû.

Im-tsai[3] 奄蔡 lies to the north-west of Gang-gu some 2000 *li*; it is as large and its customs are alike. It can muster upwards of 100,000 bowmen. It overlooks the great Shoreless Marsh 大澤無崖, reaching to the Northern Sea.

Da-yue-ti 大月氏 (the country of the Great Viddhals) lies west of Da-wan 2000 or 3000 *li*. The Viddhals dwell north of the Gwai-shui[4] 嬀水. To their south is Da-hia 大夏 (Tochâristan); west, An-sih 安息 (Arsac or Parthia); north, Gang-gu. They are herdsmen and nomades, with customs similar to those of the Hiung-nû.[5] They can muster 100,000 to 200,000 bowmen. In former times they were rash, and underrated the power of the Hiung-nû, and

[1] Wû sun, the upper valley of the Naryn and possibly Hi.

[2] Gang-gu would by analogy represent Kara kul, but this would pre-suppose the presence of Turkish names on the Pamir before the Christian era, of which I have found no other traces. Sarikol 'the yellow lake,' if this be the true interpretation of the name, would, however, seem to point to a similar antiquity, especially if, as suggested below, we are to identify the Sakarauli of Strabo with the Sarakoolies of to-day.

[3] Im-tsai, Samarkand. Lower down the name is given more fully as 奄蔡黎軒 Im-tsai ar-gan; the first two syllables are probably inverted, so that originally it appeared as Sal-m-ar-gand. The phonetic portion of *gan*, 干 'a shield,' representing Sanskrit *kaṇḍ* 'servare.'

[4] The Gwai-shui is the Oxus, the syllable corresponding with the Veh-rud of the Parsis or the local Wakh.

[5] The Chinese commentary adds, that the Viddhals had pink and white complexions and were admirably skilled in the use of the bow. The Greek writers called them the White Huns, according to Procopius, from their light complexions.

rejected all accommodation. The Hiung-nû attacked and routed them; the Shen-yu Lao-shang[1] killing their king and making a drinking cup out of his skull.

Formerly the Viddhals dwelt between Dun-hwang[2] and Ki-lîn. When they were invaded by the Hiung-nû, they were compelled to emigrate to a distance. They passed Da-wan, invaded Da-hia on the west, and overcame it. Following the course of the Dû-gwai-shui,[3] they fixed their royal residence on its north bank.

A smaller portion of the tribe, which was unable to accompany them, sought the protection of the Giangs (Thibetans) of Nan-shan; this branch is known as the Smaller Viddhals.

An-sik[4] 安息 (Arsak) lies west of the Viddhals about 1000 *li*. The country is open, the land tilled. It produces both rice and wheat. Distilled liquors are used. Its cities are like those of Da-wan; those dependent on it, large and small, are about one hundred in number. The extent of the country is about 1000 *li* square. It is a very powerful state. It overlooks the Gwai (Oxus). There are marts where the people and merchants meet to buy and sell. Carriages and ships are used for the transport of merchandize to neighbouring countries, perhaps 1000 *li* off. Silver is used in coins, the coins bear the likeness of their kings. When the king dies, the image is immediately changed for that of the new ruler. They write on skins of parchment, and make books of it.

To the west of Ansik is Tiaou-chi (Sarangia); north, Im-tsai-ar-gan (Samarkand).

Tiaou-chi[5] 條枝 lies to the west of Ansik, about 1000 *li*. It overlooks the western sea (Persian Gulf or Sea of Oman). It is an agricultural country, producing rice. There are great birds there with eggs like water jars. The inhabitants

[1] Laou-shang, perhaps Oldar or Ildar.

[2] Now Sha-chow in Kansuh.

[3] The Dû-gwai-shui seems to be the Surkh-ab, though that name would more regularly have been represented by the syllables Tû-kwai.

[4] An-sik or Ngan-sak. Ngan is the representation of Greek ἤρεμος, hence we may assume Arsak as the original pronunciation. The country is probably so called from its line of kings, the Arsacidæ.

[5] Tiao-chi, Sarangia. Tiaou is the analogue of Greek σειρά, *chi* represents the *ngia*.

are very numerous. They are continually electing petty sovereigns. In consequence Ansik has taken it under its protection, but treats it as a foreign country. The country is good but disorderly. In Ansik the old men have a story that in Tiaou-chi is situated a Yok-shui 弱水 (Dead or Weak Water),[1] the Si Wang-mu[2] and the Wei-tang-gîn 未嘗見.

Da-hia[3] 大夏 lies upwards of 2000 *li* south-west of Da-wan, to the south of the Gwai-shui (the Oxus). Generally speaking the country is open. It has cities and dwellings similar to Da-wan. It has no supreme sovereign; each city and town elects its own petty ruler. Its soldiers are weak, and cowards in fight. The people are good as merchants. The Viddhals attacked it from the west, and completely routed it, establishing a sovereignty over it. The population is numerous, probably over a million. Its capital is called Lam-shi-ching.[4] There are marts for the purchase and sale of merchandize. To its south-east lies Shin-duh 身毒 (India). Djang-kien said that when he was in Da-hia he saw Kiung bamboo staves and Sze-chuen clothes. He asked whence they were obtained. The people of Da-hia said their traders went to the Indian markets. India is distant from Da-hia to the south-east about 1000 *li*. Generally speaking the country is settled, and resembles Da-hia. Its climate is damp and hot. Its people use elephants in war.

Thus far Szema Tsien, whose work of the century immediately preceding the Christian era is the most trustworthy record of these events we possess. We may compare with his account the scanty records handed down in the classical writers.

Strabo (lib. xi.) mentions, but only incidentally, the over-

[1] Yok-shui. The Dead Water (Yok, Greek *νεκρός*, *νέκυς*) here spoken of is evidently the Hamun or lake of Seistan. The original Yok-shui of Chinese legend referred apparently to an ancient lake in Eastern Turkistan, of which lake Lob is now the representative.

[2] Si Wang-mu. See Mayers's Chinese Reader's Manual, *s.v.*

[3] Da-hia, the country of the Tochâri. The second syllable, *hia* 夏 'summer,' is the equivalent of Sanskrit *gharma*, with similar meaning, from root *ghar*, in Greek *χαρ*.

[4] Lam-shi-ching, Darapsa of Strabo. The phonetic of Lam points to a root *lamb*. Darampsa was probably the original name.

throw of the Bactrian power by tribes of Nomades from the north. He says, speaking of those of Central Asia, "The best known of the Nomades are those who conquered Bactria from the Greeks, the Asii, Pasiani, Tochâri, and Sakarauli, etc." The works of the later Greek authors are, unfortunately, not accessible in Shanghai, so that I can only quote at secondhand. Trogus Pompeius mentions the Asii and Saranci. If my suggestion that Sakarauli is an error of transcription for Sarakauli, be correct, we may identify these latter with the Saranci of Trogus, and possibly the Sarikoolies of the present day.

Both Trogus and Justin, according to Colonel Yule,[1] mention the Tochâri in a manner which connects them with the fall of the Bactrian kingdom. By the time of Procopius, the Tochâri seem for a time to have escaped from memory; hence he speaks of the Ephthalitæ or White Huns apparently without mentioning the Tochâri. The Ephthalitæ were called white (λευκόι), from the colour of their bodies, they were not ugly (ἀμορφοι) in countenance, in this matter agreeing with the Chinese author, who speaks of their pink and white complexions.

Though subjugated by the Ephthalitæ, the Tochâri would seem, in some degree, to have maintained their national name. In the Chinese report, we find the Oxus dividing the districts occupied by the two peoples. The Ephthalitæ were, however, the ruling caste. The Tochâri, more numerous, though less energetic, seem, however, to have gradually superseded the newer race, so that in mediæval times we again find them giving their name to the country of Tochâristan.

Djang Kien's account of the occupation of Bactria throws considerable light on one or two points, which have up to this time been matters of difficulty with those who have approached the subject with knowledge drawn only from Western sources, or from information taken, mainly at secondhand, from the later Chinese historians. The conquest of the country by the Tochâri and allied tribes was probably

[1] Essay on the Geography of the Valley of the Oxus, prefixed to the new edition of Wood's "Journey to the Source of the Oxus."

gradual rather than sudden. The disunion of the Greeks, and the want of a strong central government, of which we have evidence in the number of petty sovereigns whose names are to be found on their coins, left the country open to be invaded in detail. The Tochâri would seem to have superseded the Greeks in one city after another, and to have in a great measure adopted their ways and customs. Hence the Chinese writer expresses his surprise at the number of petty sovereigns, each city or town constantly setting up its own. The consequence was that the Tochâri in turn fell an easy prey to their more warlike and energetic neighbours, the Ephthalitæ, who had learned, by dire necessity, in their utter defeat by the Hiung-nû, the need of a strong organization.

The Greeks themselves were never very numerous. Cut off by the Parthians from free intercourse with the mother kingdom, the purity of their blood was not renewed from time to time, and they in consequence degenerated into the soldiers, weak and cowardly in fight, of whom Djang Kien speaks. When the Ephthalitæ, therefore, flying from their relentless enemies, the Hiung-nû, appeared on their frontiers, the rich valley of the Oxus afforded an easy prey. Still, even by them it does not seem to have been at once overcome, but, for a time, a distinction, in name at least, was kept up between the districts occupied by the two peoples.

Appendix.

Comparison of the Ancient and Modern Sounds of Chinese.

There is little reason to doubt that the Djows, when they settled in China, spoke an Aryan dialect, akin in vocabulary at least, if not in inflexion, to Sanskrit. A great proportion, if not the greater number, of words made use of in the old language can be referred to Aryan roots, and as the tendency of the language has been, within historical times, to slough off, as it were, terminals and inflexions, we may imagine how much stronger was that tendency when the empire was still

in an unsettled state, and the Djows and kindred Aryan tribes were striving, partly by force of arms and partly by alliance with the original inhabitants, to maintain their existence.

Some of these old terminations still survive in the provincial dialects, and some may have lived on within historic times, but have left little or no trace in the modern language. There are, however, two methods by which we can gauge the fact of their existence and, thus, be enabled to make a comparison of the bald monosyllabic akin to that of the Vedas; viz., the study of the ancient geography, and of the ethnology of Central and Eastern Asia, where unlooked-for coincidences spring up on every side.

Probably up to this time the greatest obstacle in the way of the comparison of Chinese and Aryan roots has stood in a false nomenclature. Chinese mutes, unlike those in other languages, have been supposed to be divided into two classes, ordinary mutes and aspirates; and these so-called aspirates, differing in outward appearance from sounds ordinarily found in European languages, have been supposed to mark a totally distinct class of vocables.

It is only of late years that the true nature of the supposed Chinese aspirate has been pointed out, and shown to be nothing more than an ultra-surd. Thus, if we write in parallel columns the ordinary European pronunciation of the mute sounds as compared with Chinese, we shall have:

	Eng.	Ch.	Eng.	Ch.	Eng.	Ch.	Eng.	Ch.	
		k'		t'		p'		ch'	Ultra-surd
Surd	k		t		p		ch		
		k		t		p		ch	Medial
Sonant	g		d		b		j		

In other words, the Chinese, in pronouncing their mutes of both classes, cut off the sound more sharply than we should do; a peculiarity which in Europe we may notice

amongst Celtic-speaking races, as the Scotch Highlanders, the Irish, and in a manner the French.

In transliterating Chinese I have, therefore, dropped the apostrophe usually adopted to mark the ultra-surd, and have substituted for it the ordinary surd of its class, and for the medial have made use of the sonant letter. Compared with Sanskrit and Greek, the surds and sonants will be found in inverted order:

Sanskrit *k*	*g, gh, kh*	*t*	*d, dh, th*	*p*	*b, bh, ph.*
Chinese *g*	*k* or *h*	*d* or *dj*	*t, ch* or *sh*	*b*	*p* or *f.*

The aspirated sounds of Sanskrit being usually found in Chinese as ultra-surds, the language having no true aspirates except *f*, and partially *h*.

Besides the simple consonants, Chinese has a class of sounds which we may represent in English by *ch, dj; ts, dz;* and *sh*. These usually are interchangeable in each class, and represent for the most part the sounds of *d* and *t* in Sanskrit, confounding, however, with the former Sanskrit *s*, and frequently *ç;* the latter of which more regularly behaves as *k*.

The sounds for *ch* and *j* in Sanskrit are found to vary much in Chinese, though they are generally represented by the corresponding gutturals, according to the rule above of the interchange of surd and sonant.

Cerebral sounds perhaps once existed; they are not now to be found.

Like *j* or *ch*, Sanskrit *v* varies much in passing into Chinese; it is found as *y, m, f, u, w*.

R often gives place to *e;* sometimes it survives as *ng*.

M, e, and *n* usually preserve their original form.

So much for initial consonants.

The Cantonese and a few other dialects preserve as finals *m, k, t,* and *p*. All distinction of surd, sonant, and aspirate has been lost.

R final usually appears as *ng,* but sometimes follows the rule for *e*.

L final seems to have remained in the spoken language for a long period. Its echoes have scarcely yet died out, and

may be detected by an English ear in the common final *aou*; as *daou* τελάω, *paou* βάλλω. Frequently it is only indicated by the lengthening of the vowel, as *dî* or *dai*, Sanskrit *tala*, *fundus*, etc.

Thus we have, according to the orthography adopted:

Chinese.	Sanskrit or Greek.		Chinese.	Sanskrit or Greek.	
gung	kar	facere	shang	dṛî	lacerare
kî	giri	mons	tow	dul	jacere
hia	ghar-ma	æstas	sing	târa	αστὴρ
dân	tan	τείνω	tow or show	çira	caput
tan	δίνη		yaou or maou	var	tegere
baou	prî	πίμ-πλημι	iang	var	arcere
paou	βάλλω		mat	madhu	mel
ian	bhid	*findo*	yuk	nig	lavare
djam	τέμνω		lap (wax)	lepa	unguentum
châng	dûra	*longus*	ngai or yai	ῥηγυδς	
châng	dhar-ma	jus	li or lai		ar-are
châng	sur	splendere	Li-min	Aryan men	

The above illustrations are only taken at random, from among hundreds of others, to illustrate the more usual permutations. The laws of change will, however, be found to be constant; and, with the aid of this table, any one conversant with the rule known as Grimm's law, and possessing an adequate knowledge of Chinese and of the principal Aryan languages, can easily for himself trace out the further inter-dependence of the two.

I have not space to enter into vowel-sounds, nor into the question of tones; nor, again, of possible lost inflexions. For the purpose of the preceding paper, and to show the possibility, to a greater extent than has been hitherto done, of utilising the Chinese authors for the illustration of the ancient names of localities, I trust the above examples will be sufficient.

It is to be understood that in transliterating foreign names, the above system did not prevail beyond the time of the early Hans. By the time of Yuen chwang (Hiouen Thsang) the pronunciation of Chinese had come in a great measure to approach the modern speech. In the Yuen dynasty we may find the modern system of alliteration fully adopted.

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ART. XV.—*On the Hill Canton of Sálár—the most Easterly Settlement of the Turk Race.* By ROBERT B. SHAW.

ALTHOUGH the Chinese are now rolling back the tide of Musulmán rebellion which had invaded their North-Western Provinces (exercising frightful barbarities on the towns they have successively retaken), yet some interest still attaches to the little Hill Canton of Sálár, which appears to have formed the nucleus of the rebellion and the chief stronghold of Islám in Western China. Dim rumours of its existence had reached Europe, but it had been supposed to be one of the towns of the Tungánís, or Chinese Musulmáns, who were then in insurrection against the Imperial Government. Col. Prschewalsky, the Russian traveller, who passed through Western China during the last throes of the rebellion, just mentions Sálár, which, however, he did not visit. I was able to learn something about the district and its inhabitants from some Sálár men who were living in Yárkand during my last stay there, and it seems to be a curious country with a curious people.

To begin with the latter, the Sálárís form the most easterly settlement of the Turk race of which we have any knowledge. Isolated among Chinese and Mongolians, they have a tradition that their ancestors came from Rúm or Turkey. The story is as follows. Their spiritual guide or religious teacher, some 700 years ago, sent them forth on a pilgrimage, giving them a sample of earth, with instructions to wander until they

should reach some country whose soil should weigh the same, measure for measure, as the sample which they bore with them. From land to land they roamed, weighing the earth from place to place, till they came by way of Tibet to *Sálár-nés* (Lower Sálár). Here the earth was found to come nearer in weight to their sample than it had been anywhere else. Still it differed somewhat. They were preparing to march further when it was discovered that some of their camels, laden with religious books, had strayed. In search of them they penetrated into the hill country which lay at the side of their road. Here their task received its accomplishment. They weighed the soil and found it exactly balanced an equal measure of that which had been given to them by their spiritual teacher. Here, therefore, they rested from their travel, and finding the hills uninhabited, they formed a settlement, to which they gave the name of *Sálár-gés* or Upper Sálár, though to what language the affix belongs I do not know.

Whatever may be their real history, they are a people of Turki race from their appearance, and speak a language differing but slightly from the Turki of Káshghar. They have but little hair on their faces, but are ruddy and comparatively fair in countenance, differing much in this respect from the yellow-skinned Mongol Kálmáks and from the Chinese. It is true I only saw two or three of their number, but this is the judgment which I formed from them.

The climate of their country differs from its surroundings as much as the people. As the latter are a Turki tribe alone amongst Mongolians and Chinese, so the district inhabited by them forms part of a moist Alpine region covered with forest, projecting out into the midst of the most barren wildernesses in the world. With the great desert of Mongolia on the North stretching far up to Siberia, and the equally rainless but elevated region of Tibet on the South-West, the district we are treating of forms the completest contrast. It is here that the great Hoang-Ho or Yellow River, coming from its sources in Tibet, enters China through a vast portal of mountains which, leaving on one side the

upper course of the river, stretch out their parallel ranges to the Westward; as one may sometimes see, in the approach to some old hall, the grand avenue deserted and grassgrown, and the road curving round from outside it come in between the trees. So also the Yellow River enters sideways from the South-West, while the great plain between the mountain ranges extends westward, covered with rich grazing grounds, and occupied in part by the great Lake of Koko-Nór, the so-called Blue Sea of the Chinese and Mongols.

Just within the portal, where the river runs in a deep valley between its mountain walls, high up on the right or southern bank, is the district of Sálár. It is watered by mountain streams, from which canals are diverted for irrigation, although the cultivation chiefly depends upon the periodical rains. The Sálárís reckon their rainy season to last for six months, viz. from June to November inclusive, during part of which time the rain is intermittent, being broken by intervals of fine weather. The rainfall is said to be very severe and heavy, so as to be injurious to the fields and crops, though, owing to the declivities, the soil dries up at once on its ceasing. On the skirts of the mountains, however, where there is no irrigation available, and where probably the rain is less heavy, it is of great benefit to the crops which thus depend on it.

There are heavy falls of snow in December, January and February, which melts away in March from the neighbourhood of the villages, but remains on the tops of the mountains till April, after which no snow is visible excepting on the mountains north of the river, in the district of *Sining*, on which the snow remains throughout the year. Thus about Sálár the southern range would seem to have sunk to the level of some eight or ten thousand feet above the sea.

The temperature of Sálár is said to be about the same in winter as that of Yárkand, while the summers are somewhat cooler. Its productions will give an idea of the climate. The crops chiefly grown are wheat, barley, peas, millet, linseed, etc. There is no Indian-corn grown (or very little) nor rice. The latter is imported from the low countries. Wheat and

barley are sown in April and reaped in August. By October, everything is out of the ground. The principal trees are poplar, willow, elm, walnut, apple, pear, apricot and peach. The mountains above Sálár are covered with forests of fir-trees; at least so I understand from the description of my informant (there being no word in Turki for the *fir* genus). He describes the trees as being straight and tall, with leaves rough, thin and wiry, which are always green throughout the year. The people of the mountains take these trees by means of the river down to the lower countries, where they are used for building purposes. When they cut this tree, a pleasant smell comes from it.

One might perhaps be inclined to feel doubts regarding the existence of such a forest region, with periodical rains, in the midst of a part of Asia noted for its rainless character and barrenness, if Col. Prschewalsky, the Russian traveller who lately visited the Koko-Nór (Lake) to the west of it, had not recorded this phenomenon with regard to the mountainous tract on the north of the Yellow River in Western Kansuh, which is a part of the same region. It is possible that the rain-clouds from the China Seas are here led along to the westward by the mountain chains running in that direction into the desert, and precipitated in rain on their flanks by the cold atmosphere of the highlands, while the heated air rising from the plains in summer (the season of the rains) opposes an obstacle to this precipitation over the tracts to the northward, and the vast belt of mountains which surrounds Tibet acts as a protection in that quarter. The name of the desert of Mongolia, *Gobi*, *i.e.* the Empty, shows sufficiently its character.

It would seem that, before the rebellion, the Chinese administration of the district of Sálár was similar to that of their other foreign possessions; that is, was left entirely in the hands of native chiefs as to details, while a general supervision was exercised by an Ambán or Resident supported by troops. Under him were two native Musulmán chiefs ruling the two divisions of the canton. The title of the one was *Khántús* and of the other *Máhtús*, and, on the death of the

incumbent, the dignity was handed on to some member of his family or to some other native Musulmán. In the trial of cases, the Kázís, or religious magistrates, sat as assessors with these native Governors, who alone had the power of inflicting punishment. The chief crimes of the country seem to have been caused by village quarrels followed by *vendetta*, as among the Afghans. Many lives are thus lost, for which, if the injured side could not obtain revenge in kind, they appealed to the native Governors or even finally to the Chinese Ambán. These endeavoured to make up the quarrels by soft words or by adjudging a money compensation to the aggrieved party, failing which, life for life was taken. It was only on such occasions, or when specially appealed to, that the Chinese Resident interfered in the administration of the canton. This seems to have been universally the character of Chinese rule over foreign dependencies. Both in Tibet and in the formerly dependent provinces of Eastern Turkistán and Zungaria, the internal government was left entirely in the hands of natives, who were supported, even in misrule, by the power of the Chinese arms.

The taxation of Sálár was very light. Each petty landholder paid a *chárak* (about 16 lbs.) of grain yearly. This grain was consumed by the Government troops on the spot, and no other taxes were imposed on the natives.

I speak in the past tense because my information refers to the state of affairs before the late rebellion, of which Sálár was one of the head-quarters, though it embraced also the large Muhammadan Chinese population of the neighbouring provinces. Regarding the present state of affairs I have no exact information; for, though it is known that the active rebellion has been stamped out by massacres of whole towns and by the migration westward of large numbers of Tungánís or Chinese Musulmáns, yet it is not ascertained that even up to this day the Imperial army has succeeded in storming the mountain fastnesses of Sálár or subjecting its inhabitants to Chinese rule again.

Their numbers are said to be about 40,000, and they live in villages consisting of scattered farmhouses each on its own

land. Groups of four or five villages each are administered by local chiefs called "*Imák*," who again are subordinate to the two Governors, above mentioned, respectively. The Chinese call the canton *Sá-Hoiza* and its people *Sálá-Hoiza*. The second word of the two compounds seems to be that applied by the Chinese to Muhammadans generally, which is stated to be "*Hoei-Hoei*" or "*Hoei-ze*." The Sálárís know themselves as *Mumin* or "the Faithful," an Arabic word.

Such are the people who formed one of the nuclei of the great Musulmán rebellion. I will now say a few words regarding their local position in relation to the other tribes of that region. Locally they are situated in the Chinese North-Western Province of Kansuh, which, during the former period of extension of the Chinese rule, is stated by my informants to have comprised within its jurisdiction all the foreign dependencies in the west as far as Káshghar and Yárkand. For this purpose the Province was divided into two parts, one inside the Great Wall of China, viz. Kansuh proper, the other beyond the Wall, where all the inhabitants were considered outer barbarians.

The city of Lan-chu, the capital of this great province, lies some distance to the East of Sálár. Between the two lies the Chinese town of *Ho-chau* (pronounced by my informant *Kho-du* or *Kho-chu*).[1] This town has sometimes been identified with Sálár, and in point of position they are in fact very near to one another. If from the city of Lan-chu, as a centre, two radii be drawn, one westward and the other north-westward, these will roughly represent, one, the upper course of the Yellow River (on whose south bank is Sálár); the other, the great western road which connects China with the provinces of Turkistán. At a certain distance along this road it is crossed by the celebrated Great Wall (called Wan-li Chûan (Chang) Chin (Chang) or "the Wall of Ten-thousand *li*"), as by the circumference of a great wheel. The road goes through the Wall by a guarded gateway called in the local Chinese dialect *Jáyi-Gwan* (Kia yü kwan). All the

[1] The name of the Yellow River, or Hoang-ho, is pronounced by him *Khwang-kho*, and Pekin *Béjm*.

region outside this Gate, as far as the Altaï Mountains, the Pamir and the back of the Himálaya Mountains, is called by the Chinese *Shé-k'hoyi* (Si-kou-wei), which is said to mean "Western (region) outside of mouth," by *mouth* meaning the gateway above mentioned, and is divided by them into a northern and a southern circuit (*Pé-lu* and *Nan-lu*).

Inside the triangle formed by the Great Wall, the western road, and the Yellow River, lay the chief scene of the Musulmán rebellion, though the rebels carried their ravages at times into other regions. They have since been put down with the utmost severity, and the massacre of 30,000 Musulmáns, men, women and children, at Suchau, near the Great Gate, and of large numbers in other towns, recall the barbarities of Chingiz Khan. All the associations of these places, however, are not those of blood and massacre, for *Sining*, a town nearly opposite Sálár on the north of the Yellow River, has always enjoyed a considerable commercial celebrity. Under the name of Séling or *Zilin*, it is well known in the markets of Western Tibet, and my informant gave me a detailed list of the trade carried on through it.

Sining seems to be the *entrepôt* of trade between Mongolia and China on the north-east and the various tribes of Tibet on the south-west. A considerable trade is carried on with Lhása, the capital of the Grand Láma of Tibet, by means of official or Government caravans (as is also the case between Lhása and Ladák), and traders from Kashmir, even, come *viâ* Lhása to Sining and reside there. The nearer neighbours of Sining and Sálár, occupying the country north of Tibet, are various partly independent tribes, among whom my informant mentioned the Kirghiz, though their presence so far to the south-east is very doubtful.

One of the other tribes, named *Dázá* (Ta-tze), seem to be Mongols, probably forming the most southerly extension of that race. They are nomads and Buddhist by religion, and wear long pig-tails.

The next race is called *Si-fan*. They are pastoral nomads and robbers, which two professions often go together. They are called by the local Chinese *Chuan Rung* or "Dog-men."

These are the people whom Col. Prschewalsky calls Tangutans (on what local authority does not appear). From the specimens of their language recorded by him, as well as those given by my informant, it would seem that they belong to the Tibetan race. He conversed in my presence in the Si-fan tongue with a Tibetan of Ladák, who understood him, though with some difficulty.

My informant mentioned three other tribes who speak the same language and are therefore Tibetans, and who are settled people living by agriculture. One of them, called *Khun-mo*, practise polyandry, and wear their hair long but cut across the forehead, while the other two, named respectively *Kopa* and *Turun*, wear pig-tails. These latter are subject to the authority of the Dalai Láma, and carry us up to the borders of Lhása or Great Tibet.

The trade of all these people and of the countries beyond them concentrates at Sining, whence it is dispersed again. From Tibet come annual caravans, sent by the Grand Láma, which take about two months on the journey. Almost all the trade between the two places is carried on by these trade-agents of the Láma. It is not usual for Sining merchants to go to Tibet, as this would be at variance with the system of the Láma Government in its intercourse with the West. Save the official agents, few people engage in the trade between Lhása and Ladák; whether it be that they are discouraged from doing so except in a few favoured instances, or else that the length and costliness of the journey make it hard for private individuals to compete with the Government caravans from both sides which obtain their carriage free. This matter is settled by treaty as well as by old custom; and the Maharaja of Kashmir, our feudatory, as successor to the rights of the old Kings of Ladák, is entitled to send a caravan every third year to Lhása, the goods being transported by unpaid labour, in return for similar privileges conferred on the yearly Lhása caravan.

To return to Sining, the relations between the townspeople and their nomad neighbours, the Si-fan, present an example of what has been called "dumb-trading," but which

might more correctly be styled "blind-bargaining." The Si-fans bring the goods they have for sale, chiefly skins and furs of animals, done up in sacks, of which they do not exhibit the contents till a bargain is struck. The towns-people go out to meet them, and show them what they will give in exchange. If this is considered sufficient, the exchange is effected; but if not, the Si-fans hold off till more is offered by the same or by another trader. It is only when he has given up his own goods that the purchaser is able to see what it is that he has bought.

It is said to be impossible for the Sining people to go into the Si-fan country to trade, as the nomads would plunder them as soon as they set foot in it. The only people with whom the latter are on terms of reciprocal friendship are the Musulmáns of Sálár, first described, and who are the only merchants who can visit the Si-fans in their own tents. This friendship has perhaps given rise to Col. Prschewalsky's apparent identification of the two people in the nomenclature which he applies to them. The Si-fan nomads he calls Tangutans, and the Sálárís Black Tangutans. But, as from their language it would appear that the former are Tibetans, and the latter Turks, there must be some mistake in this.

From the Ladák side we obtain information regarding these regions from another aspect. The Lhása merchants state that their traders go to the Chinese town of Sining, which they call Seling or Zilin (thus confirming the identification suggested by Col. Yule).[1] The caravans, they say, are accompanied by a guard to protect them *en route* from the attacks of the *Sok-po* nomads. These must be the same as the Si-fans or Tangutans of Col. Prschewalsky. Besides these there are said to be other Sok-po of the tribes called *Kalka* and *Torgud*. These names are well known as those of Mongol tribes, and therefore the name Sok-po is shown not to be an ethnic distinction. The invasion of Tibet by Geldan Tsining, King of the Zungár Kálmáks (Mongo-

[1] My lamented friend, Col. T. G. Montgomerie, pointed out the identity of Siling or Jiling (as Pundit Nain Singh called it) with Sining-fu, in his Report on Trans-Himalayan explorations during 1868.—H. Y.

lians), is ascribed to the Sok-po in the Tibetan annals of the Kings of Ladák in my possession.

While considering the tribes which occupy the Eastern part of the great unknown land that stretches along the north of Tibet, it is not perhaps out of place to give a few items of information regarding its more Western tracts, which I obtained from some Ladáki Tibetans who go on trading expeditions each year.

From the gold-producing district of T'hok-Jalung north of the Upper Indus, now well known through the labours of Col. Montgomerie's Pandits, my informants state that they travel northwards for four days of fast travelling to get to a place called Jing-Chen Jing-Chun, where a tribe of so-called *Kergiés* live in fifty or sixty tents, under their chief, Skarma-Angdu. The name of the tribe is interesting in connexion with the statement mentioned above of the *Kirghiz* being one of the tribes haunting the deserts west of Sining. These Kergiés, however, are Buddhists. They own many sheep (of the Tibetan breed) and yaks; they dress like the Lhása people, and wear their hair loose but cut across the forehead, as was mentioned by my Sálárí informants in the case of the *Khunmo* tribe. The women wear their hair also loose, with rough turquoises in it, and my informants imitated the motion with which they continually toss their heads to shake the hair aside from their faces. These people are robbers of travellers, excepting such as make arrangements for protection with their chief. They pay a small tribute to the district Governor of Gartok, as rent for the pastures which they occupy. In winter they migrate further to the north. In their summer quarters there is a salt lake with no outlet, fed by streams of sweet water.

From this tribe's summer quarters a two or three days' journey north by east leads to Kir*thé*, the abode of a tribe more barbarous than the Kergiés. Each man wears two swords and carries a lance and a gun. They are very murderous. No traders go to them without first obtaining security and a pass from their Chief, Makhpon Námgyal. They number some 200 tents.

In another direction to the north of the Kergiés, but slightly more to the westward than the last, three days' fast riding takes one to Hordum,[1] where are some thirty tents. Here there are better people under a chief named Hor-palé. They dress like Yarkandis and own *dumba* sheep (the broad-tailed kind bred in Turkistán). They wear no pig-tails, but their hair is cut across the forehead. Their northernmost grazing grounds adjoin those of the people of Khoten in Eastern Turkistán. To these more northern grounds they go in winter, and find them warmer than their southern haunts. This would indicate that they must be beyond the axis of greatest elevation, and that the ground gets lower to the northward. Their summer quarters are on the high plateau, for they have lakes without outlets fed by streams of fresh water. They pay tribute to no one. They profess to be Buddhists, but they have no lámas and their religion is very doubtful. They eat no vegetable food, being unable to obtain any, and they feed their horses in winter on meat. This is a custom mentioned by Mirza Haïdar in the sixteenth century as prevailing in Tibet generally. Their horses are large compared with the ponies of Tibet, and very active. They gallop up and down the steepest mountain sides, and are reported to attack travellers by charging down on them from all sides at a given signal, with lances couched, and with these they are said to lift and carry off the property of their victims without alighting, if no resistance is offered. If the travellers show fight, they are overpowered, tied up hands and feet, and left thus in the desert. All these tribes are said to talk the Tibetan language but with slight differences.

The Tibetan traders only visit them in their summer or more southern quarters. They are said to be sometimes attacked themselves by the Chokchu Kaba,[2] a more powerful tribe living further north but regarding whom I could obtain no information.

[1] The Kirghiz of Sanju gave me the name "Kordum Kák" as that of the district where the Yarkand River loses itself. Can there be any connexion between this name and "Hordum" given above?

[2] *Kapa* is the name of a gold-field east of Khotan.

It is a curious circumstance, showing the insecurity of the country beyond the borders of Ladák, that the traders who go thence to the T'hok-Jalung gold-fields and beyond, leave any ponies they may have, at the last Ladák village, and proceed with the hardy donkeys of the country only. This they do in order to avoid tempting the robbers (who are known under the general name of Chak-pa). These people would steal their horses, but donkeys are not sufficiently swift to enable them to go off rapidly, and they will not be troubled to rob the traders of their goods unless they can at the same time supply themselves with beasts to carry them away on.

In conclusion, I may mention that I have compared the specimens of the so-called Sok-po language of Northern Tibet, by Mr. Brian Hodgson, with the list of Kálmák words, given by Dr. Bellew in the Report of the Mission to Yarkand under Sir T. D. Forsyth, K.C.S.I. Allowing for the slight differences in the way in which different inquirers catch the sounds of an unknown dialect, and represent it in Roman characters, and also for the probability of the same thing having more than one word to express it, the general agreement is, I think, quite sufficient to show that they are both the same language. This confirms the identification of the Sok-po (proper) of Tibetan informants, with the Kálmáks of Musulmán (Turk) writers. But the former term seems to be extended, as mentioned above, to the Si-fan nomads, who are Tibetans by language. Probably the term is used, like that of Scythian by classical writers, to include many nomad tribes of different races.

Art. XVI.—*Geological Notes on the River Indus.* By Griffin W. Vyse, B.A., M.R.A.S., etc., Executive Engineer, P.W.D., Panjab.

Of all the treacherous streams in the world, perhaps none can surpass the River Indus. Its extraordinary changes, mutations, and wanderings, are proverbial, and the terror of all who live on its banks, as life and property are never safe, particularly when the river is in flood, when it seems to run rampant, and is altogether uncontrollable in its onward rush. Nowhere is it more erratic in its mutations than in the section I intend to deal with here. It has, from the earliest of times in which we have any record of its eccentric changes, defied alike all the native and British engineering skill at hand, to keep it within its restricted channels. From a short distance below the range of mountains of Kohistan, where it receives the additional waters of Kabul and Gomal, and, further south, the hill torrents on the east side of the great Suleiman Range, on our Belooch frontier, it passes through a low flattish country; its fall along this section of its course varying from five feet per mile, higher up, to about one foot per mile at its junction of the Punjnud—or united streams of the Punjab rivers. Along this reach it is intercepted here and there by belts of high impenetrable jungle, broken occasionally by rich fertile tracts, which it, again, leaves for barren sandy deserts and uncultivated waste lands.

For half the year it is, above the Punjnud, a comparatively small stream, with a minimum discharge of 20,000 cubic feet per second, but, during the fierce heat of the Punjab hot weather, it swells into a river of enormous magnitude, overflowing its banks and inundating miles of the surrounding country, through which it passes. It varies its discharge from 20,000 cubic feet per second to the almost incalculable volume of 500,000 cubic feet per second at the height of its flood. This enormous swelling is not so much due to the

rainfall, as the area of its catchment-basin lies almost wholly beyond the influence of the monsoon or equinoctial current, as to the melting of the snows of the far-off Himalayas during the summer months—a fact clearly shown by the discolouration of its waters. The fine impalpable mud held in suspension which is brought down by the River Indus deposits itself, on the velocity decreasing to 1·85 feet per second. The substance of this silt is generally composed of minute particles of clay, slate, and sand, charged with a vast amount of decayed vegetable matter, of micaceous, talcose, and chloritic schists, and of the aggregation of water-worn particles derived from pre-existing rocks, from the lofty ranges to the North; occasionally gold grains, chloritic, and argillaceous slates in minute particles, quartzitic compounds, gneiss-rock, granitoid schists and other mineral substances are also to be observed.

After the first freshet, a large proportion of Sirkandar grass seed is brought down—a grass which grows fifteen feet in height, possesses extraordinary powers of vitality, and from its nature will grow anywhere. Thus, it is a most useful servant, but a bad master. The final flood of the season brings down a vast quantity of *lei* and *tolah* seed, and *débris* mingled with the silt. This deposit of silt forms the richest possible manure, and, if it were not for the covering the lands thus receive, after the season's floods have subsided, the rabbi (or winter) crops would be poor indeed. I have made certain experiments in order to find the turbidity of the water, at certain seasons and months of the year, when the changes are most marked, and the proportion of silt to water in *running* currents of the Indus, with the following result:—

Months observed.	Water being 1·0	Velocity of current.	Remarks.	Wind, etc.
Cold weather (Nov. to February), minimum clearness	0·03	Feet. 4·22 per sec.	Taken in Mid-channel	Weather calm
March (first freshet)	0·07	5·17 ,, ,,	,,	Light wind
April	0·08	5·39 ,, ,,	,,	Wind South
May	0·11	7·88 ,, ,,	Side channel	,, ,,
June and July, maximum turbidity	0·16	10·35 ,, ,,	,, ,,	,, ,,

There is no single reach of the main stream which is straight for a thousand feet. That is to say, if its banks do not curve and twist every three or four hundred feet, its stream will rebound from left bank to right in the most persistent manner possible; and it follows this law for many hundreds of miles through Sind. What is very noteworthy, when the river is thus acting, is the variable way in which it discards the silt on the side on which it regurgitates; erosion and retrogression of level going on where it impinges.

The low valleys and dips along the Belooch Hills are undoubtedly due to the erosive action of the Indus, which at some time or other has been here; for whatever inequalities of surface may have originally directed the waters into their channels, all the subsequent deepening, scooping out, and widening, of ravines and glens, or filling up the same, have been owing to the erosive action of *running* water, laden with sand, gravel, silt, and other triturating *débris*. This opinion I have formed after careful study, and from observations made along the catchment-basin of the Indus flanking the Belooch hills, and the same idea has been borne out by the testimony of some of the most reliable authorities. The substratum of the vast sandy tracts and boundless arid plains in the Rajanpur vicinity, and again of that great waste beyond Dera-Ghazi-Khan, in the direction of Harrund to Dera-Ismail-Khan, all tend to prove this theory. The borings which have at various times been made along this reach are almost identical, and the different layers of deposit year after year, or flood after flood, are clearly distinguishable. Some of the Lagari chiefs have carried their wells down 60 and 70 feet near the Belooch Hills, and the various strata through which these wells pass are precisely the same: (i) the depth of the surface covering, (ii) the layer of sand, (iii) the seam of fine clay, then (iv) a stratum of coarser sand, below which is (v) a band of clay, which, on exposure to the atmosphere, becomes as hard as earthenware, and makes most excellent pottery. The State Railway Engineers have carried their wells down 107 feet below the lowest part of the existing bed, at a site about 90 miles, as the crow flies, to the nearest point

of the Belooch Hills. At 68 feet below the bed, they came across branches of trees and logs of wood, of the Himalayan pine; at 75 feet boulders of huge dimensions, and pieces of quartz, granite, etc. At 82 feet the formation was entirely different, and from the minute organic remains which were met with at this depth the scour could never have reached this point.

The bays so common along the soft shores of the Indus are due to the action of whirlpools, which eat terribly into banks, scour the bed, and change the course of the river far more than the high floods. Where the river impinges, and the channel is at all confined, the danger is considerably increased, particularly where the banks are baked, and broken up in sections, and caked from the fierce heat; when great masses fall over, with a loud report, into the river. Whirlpools are caused by retrogression of level, backward or underground flow, cross or double currents meeting sometimes by a sharp spur jutting out into the stream, and bringing about an increased velocity at the point of contact with the main stream. The sand along some of the worst reaches of the Indus, is of a very friable nature, but in certain sections of the higher sand embankments, on the Sherŭ and Mozuffergurh Ghat side for instance, where the whirlpools were continually showing themselves, and where the erosion had been most actively at work, the accumulated deposit of last year, where it was some feet in depth, was unlike the other sand of the opposite shore, being firm, hard, and compact. Each freshet or flood seemed to have brought down an entirely different stratum of deposit; here and there were intercepted veins of clay, varying in depth, colour and solidity, not always lying parallel, but twisting, curving, and bending, occasionally showing sharp dips and angles from the other lines, but all finally meeting towards a centre. I attribute such formation to the action of whirlpools which have gradually spent themselves out.

The observations which have been made by certain engineers have finally established, in the best-authenticated manner, facts which prove that the bed of the Indus (like many other

of the Punjab rivers) is undergoing great changes; that it is becoming higher in the Punjab, and falling or scouring out lower down in the Sind country and towards its junction with the sea. Viviani, the well-known hydraulic engineer, says, in speaking of the elevation of beds of rivers: "But the bottom of the *new* river, being composed of *fresh* and *tenacious earth*, can never be *perceptibly* subverted by the impetuosity of the waters, which in high floods will flow over it in parallel directions:" and, hence, there would remain no hope that, by means of a great fall, the coarse sands, thrown into the new bed by the tributaries, might be more readily triturated and detached from the bottom, thus causing great obstruction of the canals and irrigation cuts of the country, and to the constantly increasing risk of the embankments. Manfredi lays down as a proposition, "That the greater the ordinary body of water in a river, the *less* will be the slope of its bed;" and Guglielmini has left us the following more precise rules: "The greater the 'quantity' of water that a river carries, the less will be its fall; and the greater the force (or velocity) of the stream, the less will be the slope of the bed." The second rule must be resolved as follows: The greater the velocity of the stream, the less will be the declivity of the bed. These rules, then, will finally resolve themselves into this single one, namely: That the slope of the bottom of the Indus will diminish in the same proportion in which the body of water is increased.

One may venture, then, to assert, that the bottom of the recipient will be equally established, above and below its junction (*i.e.* point of rise and fall, or change now going on), if the sines of the slopes are reciprocally in proportion to the volume of its discharge. It is evident that this scouring out and retrogression of level is not confined to any local section, but actively at work from the point of such junction. Zanotti, Manfredi, and lastly M. de la Condamine, have each repeated this doctrine, "So long as rivers could of themselves keep their mouths open on a flat shore, the regurgitations of the tides would prevent any shoals from forming in the trunk lying above the mouth."

Frisi demands two conditions to insure such an issue: "A superabundant fall, and a considerable elevation in the general level of the country,"—conditions not to be obtained in Sind, and therefore not possible for the lower reach of the Indus. It appears, however, that the whole may be reduced to the following principles, which are in themselves simple and clear. If a river having a permanent bed flows alone over a given slope; and if, after the junction of a sudden change, the bottom of the common bed is found to be composed of substances *equally removable;* its bed may remain *equally excavated,* even with a less slope than it had before, when the force which the stream employs to tear up the bottom, added to the force with which the matter torn up runs on the inclined gradient, forms, before and after the junction, an equal sum. Now, as the relative gravity, which determines the particles of the bottom to descend, is in proportion to the sine of the inclination of the plane; and as this gravity is very little different in two planes whose inclination is nearly equal (whenever the question is of inclination at such a point as near the sea it is *so small,* the relative force of gravity may be neglected); therefore, in lessening the sine of the slope, on which the bottom of the solitary recipient is established, in proportion to the bulk or volume of water by which it is increased, there would be obtained a slope greater than is necessary for the body of the discharge. Cutting away and demolition of the shore at the mouth is ever going on, and the millions and millions of cubic feet of silt and *débris* brought down by the river when in flood is forming additions to the bottom where its force ends, and that the accumulations being washed back by the tide, clear of the thread of the stream, have no fixed place, until borne beyond the influence of such action, they sink to a deeper bottom. Retrogression of level here is but local, and cannot affect the bed higher up in its trunk; *still less, the level of the water when once it falls.* A glance at the map of the Punjab will show the tendency of the five rivers, after leaving the Himalayas, to follow a south-westerly course, and how they are all drawn towards the Indus. From the numerous dry

channels and beds of old abandoned rivers, to be found in the Montgomery, Mooltan, Mozuffergurh, and Bhawalpur districts, there cannot be the smallest doubt that their courses were once more southerly and of greater length than they are at present, and joined the Indus many miles lower down. That they are still obeying this law cannot be doubted; an evident indication that it is the wish of Nature to send them to a junction yet higher up, which points to some spot about one hundred miles to the north of Mooltan, where they may all unite. The Punjnud is eating its way gradually *up* the Indus, and must, in time, reach Dera Ghazi Khan, where possibly the slope of the country, the play, reach, and discharge, will resist its united waters from pursuing a higher point.

It has been clearly proved that the Narra, or Hakra, was not the old bed of the Indus. The course of the lost river may be traced from the Himalayas to the sea. Evidence has been adduced to show that the Hakra did not dry up in consequence of any diminution of rainfall or failure of its course; but that its waters, having ceased to flow in their ancient bed, still find their way by another channel to the ocean. It has been demonstrated that the missing river was not the Indus nor the Gaggar, nor the sacred Saraswati, nor yet a mythic stream; but was no other than the well-known Satlaj. The Dhora Purán may be traced, under different names, from above Halla to the Rann of Kach. There can be no doubt that, as observed by Pottinger (see Journal Royal Asiatic Society), this was *the eastern branch of the Indus*, down which Alexander the Great sailed to the great lake and to the sea. This also was evidently the eastern or greater arm of the Mikran, described by Rashid-ud-deen as branching off from above Mansura to the east, to the borders of Kach, and known by the name of *Sindh Sagara* (Elliot, vol. i. p. 49). This ancient river bed is also identical with the *Sankra Nala*, which was constituted by Nádir Shah the boundary between his dominions and those of the Emperor of Dehli.

Finally, in alluding to the former greater moisture of the

lower part of the Doabs, I do not consider that the existence of former great cities in such parts, with a country well populated, with a fertile, rich and prolific soil, capable of producing the best crops, and with vegetation in abundance, proves that the rainfall was greater then than now; but rather that the lands were watered by inundation canals, and that the people understood and mastered a higher system of irrigation which produced these results. The change of the river-courses higher up, however, laid waste enormous tracts of country, and the terrific sand storms from Lower Sind, passing over the parched-up soil, soon swept away cultivation, laid bare the cities, and brought desolation to half the province, changing the former bright picture of life, plenty, and beauty, into one of *nothing*, but a fiery sandy desert, a howling, blank wilderness.

Art. XVII.—*Educational Literature for Japanese Women.*

By Basil Hall Chamberlain, Esq., M.R.A.S.

Of all the revolutions of modern times, none has more astonished the world by its suddenness, none has met with less opposition in its rapid advance, and none has more completely and more scornfully broken through every tradition of former days, than that which, within the last few years, has launched the Empire of Japan on the path of imitation of an alien civilization brought to its shores by the natives of countries little better than barbarous at a time when Japan had already entered upon the middle age of her national existence. An appreciation of the changes introduced (even within the limited sphere of female education) does not, however, fall within the scope of this paper: for it would be difficult to prevent such an appreciation from degenerating either into a hymn of praise on the coming time of progress or into an elegy on the faded glories of the age of the quaint, the beautiful and the picturesque, —productions neither of which would greatly interest the members of a Society whose object is, not the eliciting individual and often mistaken opinion, but the collecting and collating of facts, figures, and documents.

Seeing then, that, whatever views may be held as to the comparative value and the fitness to an Asiatic population of the former and the present types of civilization in Japan, that of bygone days must, from its unlikeness to European models, present most interest to the Antiquary and the Oriental scholar; I propose, therefore, with as little comment as is necessary, to explain a few unfamiliar terms, and, without too often referring to the Chinese authorities on which the teaching of the Japanese moralists avowedly rests, to give some specimens of the style of writings on which, for centuries, the mind of the female youth of Japan has been fed,

premising that, of all the divisions of the native literature, that devoted to the instruction of girls is the only one which still continues to exert any considerable influence. While the reign of the Chinese Classics has passed away never to return, and the chronicles of national glory are all but a sealed book to the rising generation; while, too, the study of the inimitable ancient models of poetry and romance is replaced by the conning over translations of Mill, Buckle, and Herbert Spencer, the far inferior literature composed for the benefit of women still retains a certain popularity among that conservative sex. Still may the "Greater Learning for Women," the "Lesser Learning for Women," and other similar moral disquisitions, be found in their hands, as, also, among them, many odd, but orthodox, superstitions, at which, even in the olden days, the men smiled, still count by thousands their professed or secret votaries.

The form in which the class of literature at present under consideration most frequently appears is in that of miscellanies, the popularity of many of which reaches back many generations. Such are the *Tai-hô Hiyaku-nin Is-shu Momiji no Nishiki*, the *Wonna Yu-shoku Mibaye Bun-ko*, the *Jo-kun Tama Bun-ko*, the *Niyo-kun Kô-kiyô Woshihe Kotobuki*, and the *Wonna Tei-kin Ó-rai Yamato-ye Shô*. Occasionally, a treatise on some of the duties of women may be found printed, in smaller type, at the top of the pages of some favourite national classic, and even in the avowed miscellanies it is usual for the page to be divided into two unequal parts, the lower and larger [often a fac-simile of the running hand of some master of the art of penmanship] being devoted to the graver, and the smaller upper portion to the lighter, briefer, and more varied portions of the contents, while illustrations invariably adorn both parts. Thus, in the gracefully got up "*Tai-hô Hiyaku-nin Is-shu Momiji no Nishiki*,"—the *Hiyaku-nin Is-shu*, or "A Hundred Odes by a Hundred Poets," the *Wonna Imagawa* (a set of moral maxims for women), and models of caligraphy and epistolary correspondence, occupy the place of honour, while a multitude of rules concerning dress and etiquette, poems less univer-

sally known and admired than the "Hundred Odes," short tales of filial piety, a classification of lucky and unlucky dreams, various useful and superstitious applications of the calendar, tables for ascertaining the time of high and low water, advice to women approaching their confinement, etc., crowd the top of the page.

The "Hundred Odes," though, probably, the work which has, next to the Chinese Classics, had the most lasting influence on the national taste, need detain us but for a few moments. The odes are all written in the short thirty-one syllable measure which has, for nearly a thousand years, been the favourite metre of the poets of Japan, and were collected from various sources by the celebrated Teika (himself no mean versifier) in the year A.D. 1213, since which time their popularity has never waned, causing them to be household words even at the present day, when everything ancient is losing its hold upon the native mind. They are on the most varied themes, having been classed together for no other reason than that of their lyric gracefulness, and have not, any of them, a peculiar applicability to the requirements of the youthful female mind. Here are a few specimens, with regard to the rendering of which I would only beg those who may have the originals in their mind to excuse the want of literal translation,—a fault hard to avoid, when taking up such delicate Oriental exotics, and transplanting them into our alien and uncongenial tongue:

A thousand thoughts of tender, vague regret
Crowd on my soul, what time I stand and gaze
On the soft-shining autumn moon;—and yet,
Not to me only speaks her silv'ry haze.[1]

I gaz'd around me to behold what place
Might hold the cuckoo, that with liquid cry
Had pierc'd the gloom:—but nought could I descry,
Save, in the dawn, the moon's pale, sinking face.[2]

The following was the answer given by a court lady of the olden times to one of the ministers, who offered her his arm as a pillow when she complained of drowsiness at an enter-

[1] No. 23. [2] No. 81.

tainment, and it may serve as an example of the Japanese taste for seasoning their poetry with plays upon words:

> For one short dream of love's Elysian land
> To give a *handle* to foul calumny
> By resting on the pillow of thy *hand?*
> No! my fair name is far too dear to me![1]

Similar to the above in form and spirit are the thousands of other stanzas crowding the pages of the women's miscellanies; for the longer and more varied poetry of preclassical days finds in them no place.

More solid, but, we may suppose, less palatable, reading is offered by the "Greater Learning for Women," the "Lesser Learning for Women," the "Woman's Imagawa," and other moral treatises on the peculiar duties of females, without at least one of which none of the miscellanies would be complete. In all essentials these works agree, the only difference being a slight one in regard to the degree to which the female intellect is trodden upon and insulted. All equally derive their inspiration from the Chinese Classics, though it would be a mistake to suppose that the "Greater Learning for Women" bears any analogy either in style or treatment to *the* "Great Learning,"—that grand and inimitable monument of Chinese genius. All are written in plain Japanese, comprehensible to the feeblest female capacity, and offer neither complication of matter nor ambiguity of language. The "Imagawa for Women" and the "Greater Learning for Women" may serve as types of this class of productions. The former is founded on a set of maxims composed in the year A.D. 1429 for the benefit of his son by the *Daimiyô* Imagawa, who might be termed the Chesterfield of Japan. It may be cited, as characteristic of Eastern ways of thought, that the boy, whose attention is directed to the administration of his estates, receives no advice whatever as to those conjugal relations which form the burden of the girl's instructions. The author and the date of the original composition of the "Imagawa for Women" are alike unknown.

[1] No. 67.

The Imagawa for Women.

Things a woman should guard against:

1.—An obstinate frame of mind, and the (consequent) misapprehension of the "way" in which a woman should walk.

2.—Uselessly frequenting temples, when young, for the sake of amusement.

3.—Omitting to correct any faults on the plea of their being venial, and then venting her displeasure on others when detected.

4.—Indiscreetly publishing to strangers matters even of grave importance.

5.—Forgetfulness of the immense benefits received from parents, and neglect of filial piety.

6.—Transgressing the divinely established order by thinking lightly of her husband, and being puffed up with individual pride.

7.—Envying others who, though prosperous, are wicked.

8.—Despising others who, though poor, are honest.

9.—Giving herself up to pleasure, and constantly calling in blind musicians,[1] or being addicted to sight-seeing.

10.—Irritability, and the nursing of a jealous disposition, all unabashed at the thought of the ridicule that will ensue.

11.—Allowing herself to be led astray by superficial (lit. *ape-like*) feminine cleverness into the habit of constantly satirizing others.

12.—Gossiping interference in other people's affairs, and taking pleasure in the discomfort thus caused.

13.—Extreme splendour in her own dress and other articles, while her attendants are left in ugliness.

14.—Disregard of the proper distinctions of rank, and a blind attachment to her own caprice.

15.—Magnifying the shortcomings of others, and being filled with the thought of her own wisdom.

16.—Drawing near to the persons of priests and monks, if she should ever have occasion to receive them.[2]

[1] Till about the beginning of the present century, music was almost entirely in the hands of the blind. The custom then gradually changed.

[2] Priests and monks, on account of their sacred character, had the right of entry to the women's apartments, which were barred against all others of their sex, excepting the nearest relations. Many were the scandals to which this custom gave rise, even within the very walls of the Palace.

17.—Ignorance of what becomes her position, manifested either by excess of ostentation or excess of simplicity.

18.—Failing to discriminate the good and the bad points in her subordinates, and treating them in a wrong manner.

19.—Laying herself open to blame by being neglectful of her father-in-law or of her mother-in-law.

20.—Neglecting her step-children, all unabashed at the thought of the derision such conduct excites.

21.—Undue familiarity with any man, even if he be a near kinsman.

22.—Hating those that walk in the "way," and loving the companions who flatter her.

23.—Rudeness to guests by passing on to them the displeasure (caused by some private grievance).

The foregoing warnings are to be made the object of constant meditation; for, though neither new nor startling, they are none the less worthy of regard. With respect, then, to her household duties, a woman should apply herself in all sincerity to the task of subordinating herself in every particular to her husband, whose will is law. For know that Heaven, the Active Principle, is strong: this is the "way" of man. Earth, the Passive Principle, is weak: this is the "way" of woman. Seeing that the subjection of the Passive to the Active element is the natural law of Heaven and Earth, it is clear that if the "way" of husbands and wives is to be formed after the pattern of Heaven and Earth, a wife who would walk in this "way" must reverence her husband as if he were Heaven itself. Let her, therefore, from her earliest years, cultivate the friendship of such as are of a gentle and sincere disposition; and let her never, even for an instant, associate with vicious or low-bred companions. How faithful is the saying that, "as water takes the shape of the vessel in which it is placed, so is a man's disposition determined by the character of his associates!" Therefore it has been handed down from of old that she who would govern her household must begin by loving what is right; and she must be ever on her guard, mindful of the saying that "if thou wouldst know whether a man be virtuous or wicked, ask who are his

favourite companions."[1] It has been said that she who follows only her own will and her own caprice will bring trouble into her household: therefore (the virtuous woman) must, night and morning, turn her glance inward, that she may flee the evil, and yield herself up to the good. Human beings are born perfect in all the five cardinal virtues,[2] and the distinction that afterwards arises between the virtuous and the wicked proceeds solely from the influences to which they respectively lay themselves open.[3] For this reason, boys are put under the care of a teacher, from whom they may learn how to conduct themselves with propriety. But among women education is so rare that ignorance of the very existence of a moral code which they should obey, as well as obstinacy and perversity, are, alas! but too common. Seeing that a woman's destiny soon leads her to another home, where she passes under her husband's control, and has to minister to her father-in-law and to her mother-in-law, the greatest of all her duties is to be unwearying in the practice of filial piety towards the father and mother with whom she is to dwell for so brief a space. Few are they, who, instead of spending all their time in powdering their faces and adorning their hair and persons, devote themselves to correcting the crookednesses of their hearts. She that possesses a sincere and contented spirit need never be ashamed, even though she be fallen from her high estate. She that is perverse will encounter the disdain of all thoughtful persons, even though she be possessed of countless wealth. Here is the general rule whereby a woman may know whether she be good or whether she be evil: if her husband is pleased, she may rest assured that she is virtuous; if he be unquiet and irritable, she may be certain that it is she herself who is at fault. As for the ruling of her servants, she must, by inquiring into every detail, imitate the sun and moon, that shine alike on all plants and trees, on all lands and countries,

[1] Cf. the Spanish: Díme con quién andas, y te diré quién éres.

[2] Viz. Humanity, Uprightness, Propriety, Wisdom, and Sincerity.

[3] This passage of itself suffices to show how completely Chinese ideas formerly ruled the Japanese mind.

and she must treat her attendants each according to her particular disposition.

Such is the teaching of the "Imagawa for Women." I next transcribe the "Greater Learning for Women," one of the productions of that voluminous writer Kahibara Tokushin, who flourished during the latter part of the seventeenth and the earlier part of the eighteenth centuries:

The Greater Learning for Women.

Seeing that it is a girl's destiny, on reaching womanhood, to go to a new home, and live in submission to her father-in-law and mother-in-law, it is even more incumbent upon her than it is on a boy to receive with all reverence her parents' instructions. Should her parents, through excess of tenderness, allow her to grow up self-willed, she will infallibly show herself capricious in her husband's house, and thus alienate his affection, while, if her father-in-law be a man of correct principles, the girl will find the yoke of these principles intolerable: she will hate and decry her father-in-law; and the end of these domestic dissensions will be her dismissal from her husband's house, and the covering of herself with ignominy. The parents, forgetting the faulty education they gave her, may, indeed, lay all the blame on the father-in-law. But they will be in error; for the whole disaster should rightly be attributed to the faulty education the girl received from her parents.

More precious in a woman is a virtuous heart than a face of beauty. The vicious woman's heart is ever excited; she glares wildly around her, she vents her anger on others, her words are harsh and her accent vulgar; when she speaks it is to set herself before others, to upbraid others, to envy others, to be puffed up with individual pride, to jeer at others, to outdo others,—all things at variance with the "way" in which a woman should walk. The only qualities that befit a woman are gentle obedience, chastity, mercy, and quietness.

From her earliest youth, a girl should observe the line of demarcation separating women from men; and never, even for an instant, should she be allowed to see or hear the least impropriety. The customs of antiquity did not allow men and women to sit in the same apartment,[1] to keep their wearing apparel in the same place,[2] to bathe in the same place,[2] or to pass to each other anything directly from hand to hand.[3] A woman going abroad at night must in all cases carry a lighted lamp;[4] and (not to speak of strangers) she must observe a certain distance in her relations even with her husband and with her brethren. In our days, the women of the lower classes, ignoring all rules of this nature, behave themselves disorderly; they contaminate their reputation, and bring down reproach upon the heads of their parents and their brethren, and spend their whole lives in an unprofitable manner. Is not this truly lamentable? It is written, likewise, in the "Lesser Learning," that a woman must form no friendship and no intimacy except when ordered to do so by her parents or by the "middleman."[5] Even at the peril of her life, must she harden her heart like rock or metal, and observe the rules of propriety.

In China,[6] marriage is called *returning*, for the reason that a woman must consider her husband's home as her own, and that, when she marries, she is therefore returning to her own home. However low and needy may be her husband's position, she must find no fault with him, but consider the poverty of the household which it has pleased Heaven to give her as the ordering of an unpropitious fate. The Sage of old taught that, once married, she must never leave her husband's house.[7] Should she forsake the "way," and be

[1] See the "Record of Rites" (禮 記), 12th book, 37th chapter.

[2] See ditto, 30th chap.

[3] See ditto, 12th chap., wherein it is set forth that, when a woman (except on some ceremonial occasions) has to present anything to a man, she must either put it into a box, or else place it on the ground for him to take up.

[4] See ditto, same chap.

[5] See the "Record of Rites," 1st book, 42nd chap. In Mencius, a similar precept may be found. All marriages in Japan being *mariages de convenance*, the "middleman," or negociator between the two families, plays a great part.

[6] See the Book of Odes (詩 經), part 1, 1st book, 7th ode, 2nd stanza.

[7] See the "Record of Rites," 11th book, 24th chapter.

divorced, shame shall cover her till her latest hour. With regard to this point, there are seven faults, which are termed "the Seven Reasons for Divorce":[1] (i) a woman shall be divorced for disobedience to her father-in-law or mother-in-law; (ii) a woman shall be divorced if she fail to bear children, the reason for this rule being, that women are sought in marriage for the purpose of giving men posterity; a barren woman should, however, be retained if her heart is virtuous and her conduct correct and free from jealousy, in which case a child of the same blood must be adopted; neither is there any just cause for a man to divorce a barren wife, if he have children by a concubine; (iii) lewdness is a reason for divorce; (iv) jealousy is a reason for divorce; (v) leprosy, or any like foul disease, is a reason for divorce; (vi) a woman shall be divorced, who, by talking overmuch, and prattling disrespectfully, disturbs the harmony of relations, and brings trouble on her household; (vii) a woman shall be divorced who is addicted to stealing. All the "Seven Reasons for Divorce" were taught by the Sage. A woman, once married, and then divorced, has wandered from the "way," and is covered with the greatest shame, even if she should enter into a second union with a man of wealth and position.

It is the chief duty of a girl living in the parental house to practise filial piety towards her father and mother. But, after marriage, her chief duty is to honour her father-in-law and mother-in-law,—to honour them beyond her own father and mother,—to love and reverence them with all ardour, and to tend them with every practice of filial piety. While thou honourest thine own parents, think not lightly of thy father-in-law! Never should a woman fail, night and morning, to pay her respects to her father-in-law and mother-in-law. Never should she be remiss in performing any duties they may require. With all reverence must she carry out, and never rebel against, her father-in-law's[2] commands. On every point she must inquire of her father-in-law and

[1] All this passage is amplified from the 大戴禮.
[2] See the "Record of Rites," 12th book, 11th chap.

mother-in-law,[1] and abandon herself to their direction. Even if thy father-in-law and mother-in-law be pleased to hate and vilify thee, be not angry with them, and murmur not! If thou carry piety towards them to its utmost limits, and minister to them in all sincerity, it cannot be but that they will end by being friendly to thee.

A woman has no particular lord.[2] She must look on her husband as her lord, and must serve him with all worship and reverence, not despising or thinking lightly of him. The great life-long duty of a woman is obedience.[3] In her dealings with her husband, both the expression of her countenance and the style of her address should be courteous, humble, and conciliatory, never peevish and intractable, never rude and arrogant: that should be a woman's first and chiefest care. When the husband issues his instructions, the wife must never disobey them. In doubtful cases, she should inquire of her husband, and obediently follow his commands. If ever her husband should inquire of her, she should answer to the point:—to answer in a careless fashion were a mark of rudeness. Should her husband be roused at any time to anger, she must obey him with fear and trembling, and not set herself up against him in anger and disputatiousness. A woman should look on her husband as if he were Heaven itself, and never weary of thinking how she may yield to her husband, and thus escape the celestial castigation.

As brothers-in-law and sisters-in-law are the brothers and sisters of a woman's husband, they deserve all her reverence. Should she lay herself open to the ridicule and dislike of her husband's kindred, she would offend her parents-in-law, and do harm even to herself,—whereas, if she live on good terms with them, she will likewise rejoice the hearts of her parents-

[1] See ditto.

[2] *i.e.* no *feudal* lord.

[3] See the 大戴禮, where Confucius sets forth the three heads under which a woman's duty may be summed up: while a girl, obedience to her parents; when married, to her husband; and when a widow, to her son. The author of the *Yamato Jo-kai* says: "If thy father-in-law says that wrong is right, thou must unhesitatingly give in to his opinion; if thy mother-in-law says that right is wrong, then, likewise, must thou give in to her opinion. Dispute not, discriminate not between right and wrong, between what is crooked and what is straight."

in-law. Again, she should cherish, and be intimate with, the wife of her husband's elder brother; yea, with special warmth of affection should she reverence her husband's elder brother and her husband's elder brother's wife, esteeming them as she does her own elder brother and elder sister.

Let her never even dream of jealousy. If her husband be dissolute, she must expostulate with him, but never either nurse or vent her anger. If her jealousy be extreme, it will render her countenance frightful and her accents repulsive, and can only result in completely alienating her husband from her and making her intolerable in his eyes. Should her husband act ill and unreasonably, she must compose her countenance and soften her voice to remonstrate with him; and if he be angry and listen not to the remonstrance, she must wait over a season, and then expostulate with him again when his heart is softened. Never set thyself up against thy husband with harsh features and a boisterous voice!

A woman should be circumspect and sparing in her use of words; and never, even for a passing moment, should she slander others or be guilty of untruthfulness. Should she ever hear calumny, she should keep it to herself and repeat it to none; for it is the retailing of calumny that disturbs the harmony of relatives and destroys the peace of a house.

A woman must ever be on the alert, and keep a strict watch over her own conduct. In the morning she must rise early, and at night go late to rest. Instead of sleeping in the middle of the day, she must be intent on the duties of her household, and must not weary of weaving, sewing, and spinning. Of tea and wine she must not drink overmuch, nor must she feed her eyes and ears with theatrical performances, ditties, and ballads. To temples (whether Shintô or Buddhist) and other like places, where there is a great concourse of people, she should go but sparingly till she reaches the age of forty.

She must not let herself be led astray by mediums and divineresses and enter into an irreverent familiarity with the gods, neither should she be constantly occupied in praying.

If only she satisfactorily perform her duties as a human being, she may let prayer alone without ceasing to enjoy the divine protection.

In her capacity of wife, she must keep her husband's household in proper order. If the wife be evil and profligate, the house is ruined. In everything she must avoid extravagance, and both with regard to food and raiment must act according to her station in life, and never give way to luxury and pride.

While young, she must avoid the intimacy and familiarity of her husband's kinsmen, comrades, and retainers, ever strictly adhering to the rule of separation between the sexes; and, on no account whatever, should she enter into a correspondence with a young man. Her personal ornaments and the colour and pattern of her garments should be unobtrusive. It suffices for her to be neat and cleanly in her person and in her wearing apparel. It is wrong in her, by an excess of care, to obtrude herself on other people's notice: only that which is suitable should be practised.

She must not selfishly think first of her own parents, and only secondly of her husband's relations. At New Year, on the *Sekku*[1] festivals, and other like occasions, she should first pay her respects to those of her husband's house, and then to her own parents. Without her husband's permission, she must go nowhere, and she must make no presents on her own responsibility.

As a woman rears up posterity,—not to her own parents,—but to her father-in-law and mother-in-law, she must value the latter even more than the former, and tend them with all filial piety. Her visits, also, to the paternal house should be rare after marriage. Much more then, with regard to other friends, should it generally suffice her to send a message to inquire after their health. Again, she must not be filled with pride at the (recollection of the) splendour of her parental house, and must not make it the subject of her conversations.

[1] Certain festivals, viz. the 7th day of the 1st month, the 3rd of the 3rd month, the 5th of the 5th month, the 7th of the 7th, and the 9th of the 9th.

However many servants she may have in her employ, it is a woman's duty not to shirk the trouble of attending to everything herself. She must sew her father-in-law's and mother-in-law's garments, and make ready their food. Ever watchful on the requirements of her husband, she must fold his clothes and dust his rug, rear his children, wash what is dirty, be constantly in the midst of her household, and never go abroad but of necessity.

Her treatment of her handmaidens will require circumspection. These low and aggravating girls have had no proper education; they are stupid, obstinate, and vulgar in their speech. When anything in the conduct of their mistress's husband or parents-in-law crosses their wishes, they fill her ears with their invectives, thinking thereby to render her a service. But any woman who should listen to this gossip must beware of the heartburnings it will be sure to breed. Easy is it by reproaches and disobedience to lose the love of those, who, like a woman's marriage connexions, were all originally strangers; and it were surely folly, by believing the prattle of a servant-girl, to diminish the affection of a precious father-in-law and mother-in-law. If a servant-girl be altogether too loquacious and bad, she should be speedily dismissed; for it is by the gossip of such persons that occasion is given for the troubling of the harmony of relations and the disordering of a household. Again, in her dealings with these low people, a woman will find many things to disapprove of. But if she be perpetually reproving and scolding, and spend her time in bustle and anger, her household will be in a continual state of disturbance. When there is real wrong-doing, she should occasionally notice it, and point out the path of amendment, while lesser faults should be quietly endured without anger. While in her heart she compassionates her subordinates' weaknesses, she must outwardly admonish them with all strictness to walk in the paths of propriety, and never allow them to fall into idleness. If any is to be succoured, let her not be grudging of her money; but she must not foolishly shower down her gifts on such as merely please her individual caprice, but are unprofitable servants.

The five worst maladies that afflict the female mind are: indocility, discontent, slander, jealousy, and silliness. Without any doubt, these five maladies infest seven or eight out of every ten women; and it is from these that arises the inferiority of women to men. A woman should cure them by self-inspection and self-reproach. The worst of them all, and the parent of the other four, is silliness. Woman's nature is passive (lit. *shade* 陰). This passiveness, being of the nature of the night, is dark. Hence, as viewed from the standard of man's nature, the foolishness of woman, fails to understand the duties that lie before her very eyes, perceives not the actions that will bring down blame upon her own head, and comprehends not even the things that will bring down calamities upon the heads of her husband and children. Neither when she blames and accuses and curses innocent persons, nor when, in her jealousy of others, she thinks to set up herself alone, does she see that she is her own enemy, estranging others and incurring their hatred. Lamentable errors! Again, in the education of her children, her blind affection induces an erroneous system. Such is the stupidity of her character, that it is incumbent on her, in every particular, to distrust herself and to obey her husband. We are told that it was the custom of the ancients, on the birth of a female child,[1] to let it lie on the floor for the space of three days. Even in this may be seen the likening of the man to Heaven and of the woman to Earth; and the custom should teach a woman how necessary it is for her in everything to yield to her husband the first, and to be herself content with the second, place; to avoid pride, even if there be in her actions something deserving praise; and, on the other hand, if she transgress in ought and incur blame, to wend her way through the difficulty, and amend the fault, and so conduct herself as not again to lay herself open to censure; to endure without anger and indignation the jeers of others,

[1] See the Book of Odes, part ii. 4th book, 6th ode, 9th stanza. At birth "the boy" (to quote Dr. Legge's Commentary) "is placed on a couch, to do him honour; the daughter on the ground, to show her meanness."

suffering such things with patience and humility. If a woman act thus, her conjugal relations cannot but be harmonious and enduring, and her household a scene of peace and concord.—Parents! teach the foregoing maxims to your daughters from their tenderest years! copy them out from time to time, that they may read and never forget them! Better than the garments and other vessels which the fathers of the present day so lavishly bestow upon their daughters when giving them away in marriage, were it to teach them thoroughly these precepts, which would guard them as a precious jewel throughout their lives. How true is that ancient saying: "A man knoweth how to spend a million pieces of money in marrying off his daughter, but knoweth not how to spend an hundred thousand in bringing up his child"! Such as have daughters must lay this well to heart.

Adhering to the plan announced in my prefatory remarks, I make no comment on the moral lessons inculcated in the two treatises above translated. They, indeed, speak for themselves; and any one having the least acquaintance with the doctrines of the Chinese philosophers will see how directly the moral and social ideas current in Japan flow from those in vogue in the Middle Kingdom. To the latter, among other peculiarities, must be traced the habit of ignoring all those sanctions of right conduct that other nations have borrowed from the unseen spiritual world. As will have been noticed, the practices of religion are mentioned merely to be discouraged.

The minor contents of the women's miscellanies need not detain us so long as the graver ones have done. They are, as already mentioned, extremely various. Among them, a number of short tales of filial piety occupy the chief place, and are divided into two sets of twenty-four tales each,—one set being translated from the Chinese, and the other, though suggested by the Chinese stories, being of native composition. I subjoin a specimen of each.

Rô-rai-shi[1] (*a Chinese tale of filial piety*).

Rô-rai-shi had practised filial piety from his youth upwards, and had reached the age of seventy without losing either his father or his mother. Fearful lest, if he should let them see how old and decrepit he had himself become, they might be led into sad thoughts by the contemplation of their own condition, he used to dress in baby's clothes and play pranks before them as if he had been a little child. Once, when handing them food, he purposely fell down, and then pretended to cry, all with the intention of diverting the spirits of his aged parents.

The Parsley Queen (*a Japanese tale of filial piety*).

The Princess was the daughter of a peasant dwelling in an obscure country village near Asŭka, in the province of Yamato. Her father died whilst she was yet in her infancy, and the girl applied herself to the tending of her mother with all filial piety. One day, when she had gone out into the fields to gather some parsley (of which her mother was very fond), it chanced that Prince Shô-toku Tai-shi was making a progress to his palace at Ikaruka, and all the inhabitants of the country-side flocked to the highway along which the procession was passing, in order to behold the gorgeous spectacle and to show their respect for the Mikado's son. The girl alone, paying no heed to what was going on around her, simply continued picking her parsley, and was observed from his carriage by the Prince, who, astonished at the circumstance, sent one of his retainers to inquire into its cause. The girl replied: "My mother bade me pick parsley, and I am following her instructions: that is the reason why I have not turned round to pay my respects to the Prince." The latter, being informed of her answer, was filled with admiration at the strictness of her filial piety; and, alighting at her mother's cottage on his way back, told her of the occurrence, and, placing the girl in the next carriage

[1] The above is, of course, the Japanese pronunciation of the Chinese characters.

to his own, took her home with him to the Imperial Palace, and ended by making her his consort, upon which the people knowing her story, gave her the name of the "Parsley Queen."

As an account of the peculiarities of the epistolary style adopted by the women of Japan could interest none but the Japanese specialist and would, indeed, be fully understood by him only, nothing need be said in this place on the subject of the numerous model letters to be found in the pages of the women's miscellanies; and other reasons of equal weight forbid the introduction into this paper of translations of the numerous rules concerning etiquette and household economy, or of the biographical notices of native heroes and heroines, so plentifully met with therein. All that remains, therefore, are the superstitious applications of the calendar and other superstitious beliefs, from which, as typical of the rest, I select two for notice, viz. the Interpretation of Dreams, and the Lucky Years for Marriage.

The list of lucky and unlucky dreams to be found in some of the miscellanies is said to have been drawn up by the celebrated priest Kô-bô Dai-shi, a pioneer of Buddhism who flourished early in the ninth century of our era, and, among other inventions, is said to have invented, also, the native syllabic writing. His interpretation of dreams cannot be called a system; but, on the contrary, seems altogether arbitrary, reposing as it does, sometimes on the idea, common in Western countries, that dreams should be interpreted by the rule of contraries, and sometimes on the simpler opposite method. Thus we find that:

If one dream of ascending to Heaven, he shall rise to high rank.

If one dream of swallowing the Sun and Moon, he shall have good children.

To dream of being struck by a thunderbolt is extremely lucky.

To dream of worshipping the gods is extremely lucky.

To dream of being bitten by a snake is extremely lucky.

If one dream of the Sun and Moon falling down, he shall be separated from his parents.

To dream of sweating is extremely lucky.

It is unlucky to dream of eating fruit of any description.

If one dream of his teeth falling out, some great misfortune will happen to him.

The system of discriminating between the lucky and unlucky years for marriage rests on the well-known ten-year cycle, with its five subdivisions of two years each,—every subdivision being supposed to be under the influence of one of the five elements of Wood, Fire, Earth, Metal and Water, though the reason for attributing luck to some of the possible combinations of these elements and the contrary to others seems uncertain. Here are one or two samples of this species of fortune-telling:

For the husband to be born in a "Wood" year and the wife in a "Fire" year is extremely lucky. They will have a family of either three or five children, and any misunderstandings that may trouble the earlier years of their union are sure to be replaced by conjugal harmony, to which will be added length of days and an abundance of worldly goods. The imprecations of enemies are, however, to be redoubted; but the worship of the Shinto and Buddhist divinities will make their married life resemble the budding forth of the trees and plants in spring.

For the husband and wife to be both born in a "Fire" year is extremely unlucky. They may indeed, have children, but their children will be unfilial, while they themselves will be perpetually wrangling. Their circumstances will be needy, and, in every way, uncomfortable. They will do well to worship the god of the Kitchen.

For the husband to be born in a "Fire" year and the wife in a "Water" year is unlucky. They will have three children, one of whom will be a cripple. They will also be short-lived, poor, and given to squabbling. But if they be well-intentioned, their luck will improve.

ART. XVIII.—*On the Natural Phenomenon known in the East by the names* Sub-hi-*Kāzib, etc., etc.* By J. W. REDHOUSE, M.R.A.S., Hon. Memb. R.S.L.

THERE are creations of superstitious fear or fancy, things with names in various languages, but entirely void of external entity. Such are the Jinn, the Gūl, the Dīv, the Parī, the Ox that bears the earth, and the Fish that supports the Ox. All these have been used by Eastern poets and prose-writers to furnish endless similes, tropes, and metaphors, to the great embellishment of language.

Again, there are many natural phenomena that, ignorantly and superstitiously explained, have given rise to dread, awe, astonishment, or admiration; and, clothed with these popular explanations, have become the fertile sources of many a tale, many an allusion, many an exemplification. Such are paralysis and epilepsy, attributed sometimes to the touch of a demon, sometimes to witchcraft, and sometimes to the "evil eye," as are many other diseases, corporeal or mental. Such is the rainbow, as explained in the Book of Genesis; such is Caucasus when magnified into a mountain boundary of the inhabited surface of the earth. Such, also, may we reckon the phenomenon, the subject of the present disquisition, which is known in Arabic by the names of 'Al Fajru 'l Kā*dh*ib, *the False Dawn*, and *Dh*anabu 's Sir*h*ān, *the Wolf's Tail*. In Persian it is denominated *Sub-hi* Awwal, *the First Dawn*, *Sub-hi* Durūg, *the False Dawn*, *Sub-hi* Kāzib, *the False Dawn*, *Sub-hi* Mulamma'-Niqāb, *the Dawn with Variegated Veil*, *Sub-hi* Nu*kh*ust and *Sub-hi* Nu*kh*ustīn, the *First Dawn*, *Sub-hi* Yakum, *the Primary Dawn*, and Dumi Gurg, *the Wolf's Tail*. In Turkish it is styled Qurt Quyrugu, the *Wolf's Tail*. It is doubtless known in Hindūstāni, also, by a special name.

This phenomenon has been turned to account by poets and prose-writers in those various languages, as it is opposed to another natural phenomenon, the *True Dawn*, which shortly follows it, and which is the real daybreak, being itself followed by sunrise. This *True Dawn* is designated in Arabic 'Al Fajru 's *S*ādiq; and in Persian, by *S*ub-*h*i *S*ādiq, *S*ub-*h*i Rāst, *S*ub-*h*i Duwum, and seven other synonymous names. In Turkish, the Arabic and the first Persian names are applied to it.

From these series of names it is seen that the two phenomena, the *False Dawn* and the *True Dawn*, are placed in antithesis, and are contrasted with one another. The two are supposed to be so well known, that the lexicons give no satisfactory account of either.

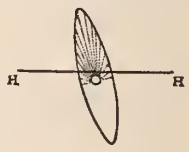
The Qāmūs explains the *Wolf's Tail*, ذَنَبُ ٱلسِّرْحَانِ, by its synonym the *False Dawn*, ٱلْفَجْرُ ٱلْكَاذِبُ; but, in فَجْرٌ, as in صُبْحٌ, gives no explanation of either *False* or *True Dawn*.

The Turkish translation of the Qāmūs, however, is somewhat more explicit. It adds to فَجْرٍ كَاذِبٌ, in explaining ذَنَبُ ٱلسِّرْحَانِ, the gloss شَفَقٍ مُسْتَطِيلٍ *the longish or tallish twilight*. Under صُبْحٌ, it imitates the silence of its original. But, under فَجْرٌ, it explains: "There are two *dawns*, one, the *False Dawn*, makes its appearance under a longish or tallish form, and is what is termed the *Wolf's Tail*. The other shows itself later, and is spread along the horizon. When this takes place, he who is about to fast may no longer eat or drink lawfully. This is the *True Dawn*, فَجْرٍ صَادِقٌ."

The older Persian lexicons, and their Turkish translations, give no more explanation than does the Qāmūs. But the Bahāri-'Ajam explains دُمِ گُرگ by saying: "It is a surname of the *False Dawn*; for they have compared the *False Dawn* to the *tail of a wolf*, by reason of its length and slenderness. In Arabic, too, it is termed ذَنَبُ ٱلسِّرْحَانِ, identical in meaning with دُمِ گُرگ."

Since the authorities, thus, in a great measure desert us, we are forced to have recourse to inference, as follows, in deducing the real meaning of these terms. The *True Dawn* "spreads along the horizon, and is followed by sunrise." There can be no mistake as to what this really is. It is the daybreak, the morning twilight, the *crepusculum* that precedes sunrise. The *False Dawn*, on the contrary, "is of a longish or tallish figure, resembling a *wolf's tail* in length and in slenderness." In contradistinction to the "spreading along the horizon" of the *true dawn*, I would add that the *false dawn*, like a *wolf's tail* as he runs, is of a more or less erect figure, "tall and slender." It precedes the appearance of the *true dawn*. What can this be? Is it not the *Zodiacal Light*, described as follows in Brande's "Dictionary of Science," London, 1867 :—

"Zodiacal Light, in Astronomy, a faint nebulous *aurora* which surrounds the sun in the plane of its equator; first observed by Kepler, who supposed it to be the solar atmosphere; first accurately described by Dominic Cassini, who gave it the name by which it is now known. It is visible immediately before sunrise or after sunset, in the place where the Sun is about to appear or has just quitted in the horizon. It has a flat, lenticular form, as represented in the annexed figure, extending from the horizon H H obliquely upwards, and following the course of the ecliptic, or rather of the sun's equator. For this reason it is scarcely visible in our latitudes, except in those seasons when the plane of the Sun's equator is most nearly perpendicular to the horizon. The most favourable times for observing it are in the months of April or May in the evening, or at the opposite season of the year (October, November) before sunrise. At other times, the plane of the solar equator being more oblique, and the luminous pyramid in the same degree, it rises so little above the horizon that its light is effaced by the atmosphere of the earth."



Eastern authors make no mention of a *wolf's tail* as seen

at night after the evening twilight. This circumstance constitutes a difficulty in theoretically identifying the *False Dawn* with the *Zodiacal Light;* but it may be partly explained by the fact that there is no obligatory service of divine worship imposed on the Muslim world after that of the end of twilight. As day approaches, however, matters are different. The first obligatory service is performable from the appearance of the "Second Dawn," which is "the brightness that spreads along the horizon," until the time of sunrise. A fast begins also, obligatorily, with the (true) dawn.

Here, then, is a necessity for accurately observing the commencement of the dawn, and for distinguishing between it and any other phenomenon that may be mistaken for it. Again, the year and month of Islām being lunar, the month of obligatory fasting, Rama*dh*ān, is advanced every year, in comparison with the seasons and equinoxes, about eleven days, so as to traverse the whole solar year once in about thirty-three years. The Zodiacal Light will therefore be visible before dawn, before the true dawn, whenever the Mu'e*dhdh*in (Mu'ezzin) prepares to call the faithful to early matins towards the latter part of autumn and beginning of winter; and more especially will his attention be called to it when the month of fasting, during four or five years in every cycle of thirty-three, corresponds with the latter part of autumn or beginning of winter. And, as the fast is repeated daily for a whole month, the visibility of the Zodiacal Light before dawn will begin when Rama*dh*ān commences towards the beginning of winter; and will not cease until Rama*dh*ān ends towards the latter part of autumn. It will be observable, therefore, more or less, in Rama*dh*ān, during perhaps eight or ten years in each cycle of thirty-three, and yearly in some one month or other; perhaps in some two months.

The Mu'e*dhdh*in will, therefore, frequently be called upon to distinguish between the dawn—the True Dawn—and any appearance that resembles it. He will learn that there is a frequently recurring luminosity visible before the True Dawn, mocking this and himself, as it were. Having learnt

this from experience, he will naturally distinguish the two appearances by special names, and the legist will assist him to do so. Hence will arise the terms *First* or *False Dawn* (when the service of worship must not be performed, under pain of invalidity; and when fasting is not yet obligatory) and the *Second* or *True Dawn*, the harbinger of coming day, when worship and fasting become obligatory.

A short time ago, possibly at present still, European science had not satisfactorily determined the nature of the Zodiacal Light, though it was seen to be evidently dependent on the Sun, never being visible but in his proximity. We need not, then, be surprised if Eastern astronomers and philosophers have failed to explain it, but have simply recorded their knowledge of its existence, if their False Dawn be our Zodiacal Light. Europeans have put forward more than one theory to account for its occurrence; and Eastern poets or fictionists, those who imagine the Bull and the Fish that support the world, have also explained, in their imaginative way, the appearance of the *False Dawn*.

Every one knows, in the East, that the level plain of the Earth is surrounded by the impassable barrier of Caucasus, قَافٌ طَاغِي, كُوهِ قَافٌ, جَبَلُ ٱلْقَافِ, from behind which the sun rises in the east, and behind which he sets in the west. The *True Dawn* is caused by the incidence of the sun's rays on the higher strata of the atmosphere, at first visible in a point or limited space of the horizon just above the distant summits of Caucasus, and gradually increasing in breadth "along the horizon," in height above it, and in brightness, until the sun himself emerges from behind the barrier, and fills the whole earth with the light of day.

What then is, according to Easterns, the *False Dawn*, the *Wolf's Tail?*

There is in Caucasus, in Eastern Caucasus, some distance below its summit, a chink, a hole, a tunnel. When the Sun, then, approaching the skirts of Caucasus beyond that barrier to our abode, begins to shoot his rays upwards, these oblique rays, before they can reach the upper strata of the atmosphere on this side of Caucasus, by passing over its summits, strike

through that chink, hole, or tunnel, and send a long, slender beam of feeble light, obliquely, into the atmospheric strata adjacent to the mountain; and hence the shape of the phenomenon,—hence, also, its small luminous power. Furthermore, as the Sun continues to rise, his rays cease to be projected in a direction fitted to pass through that chink; the feeble light of the *False Dawn* fades away; darkness again sets in for a short space, until the *True Dawn* begins to make its appearance. Such is the mythical explanation current among Easterns in elucidation of the phenomenon they term the *First* or *False Dawn*, and the *Wolf's Tail*.

The following are specimens from Persian poets of the use of some of the epithets by which they vary the distinction between the *First* or *False*, and the *Second* or *True*, Dawns:—

فُرُوغِ جَبْهَهٔ صَاحِبْقِرَانِيسْتْ ٭ گُوَاهِ صُبْحِ اَوَّلْ صُبْحِ ثَانِيسْتْ ٭

He (*the Emperor Jihāngīr*) is a ray from the forehead of the Lord of the Conjunction (*Tīmūr*); the *Second Dawn* is a witness to the *First Dawn*.—*Julālāyi-Tabātabā*.

گُرُوهِی چُو صُبْحِ يَكُمْ رُوِيشَانْ ٭ هَمَهٔ آتَشْ وَ دُودَشَانْ مُوِيشَانْ ٭

One party were like the *First Dawn;* their faces all fire; their hair being their smoke.—*Bāqiri-Kāshī*.

شَبِی نَرَفْتْ بَسُوِی سَحَرْگَهْ دِيدَهٔ أُو ٭
نَدَاشْتْ بَرْدَرِ صُبْحِ نُخُسْتْ دَرْبَانِی ٭

One night his eyes went not in the direction of the place of daybreak: he kept not watch and ward at the gate of the *First Dawn*.—*Wālihi-Harawī*.

دِلْ آگَاهْ بَرْ صُبْحِ نُخُسْتِينْ مِيبَرَدْ غَيْرَتْ ٭
كِهْ دَارَدْ دَرْبِسَاطِ عُمْرْ أُمِيدِ دَمِ دِيگَرْ ٭

The awakened-hearted man is jealous of the *First Dawn;* for, on the carpet of life, he hath hope of another dawn. —*Sā'ib*.

بُوَدْ آنْ زَمَانْ تَابِ صُبْحِ دُرُوغْ ٭ كِه اَزْ صُبْحِ صَادِقْ نَبَاشَدْ فُرُوغْ ٭

The splendour of the *False Dawn* exists at a time when no ray of the *True Dawn* is in existence.—*Hātifī.*

پَنْبَه اَزْگُوشْ بِرُون كُنْ كِه بِنَا گُوشِ سَفِيدْ ٭
دَمِ صُبْحِيسْتْ كِه صُبْحِ دُوُم آنْ كَفَنْ اَسْتْ ٭

Take away the cotton-wool out of thy ears; for the white ear is the rise of a dawn, the *Second Dawn* of which is the shroud.—*Sā'ib.*

بَگِيتِى بَايَدَتْ خُورْشِيدْ رُوئِى ٭ چُو صُبْحِ دُوِيمِينْ كُنْ رَاسْتْ گُوئِى ٭

In the world, (honest) beamingness of countenance is needful unto thee; like the *Second Dawn*, practise thou truth-speakingness.—*Mīr* Khusraw.

بَابِيزَرِى چُو لَالَهٔ عَبَّاسِى اَزْچِه رُو ٭
بَايَدْ مَرَا بَبَزْمِ تُو صُبْحِ پَسِينْ شُگُفْتْ ٭

Together with impecuniosity, why is it necessary for me, like the evening primrose (*Mirabilis jalapa*), to blossom at thy banquet at the time of the *Latter Dawn?—Asar.*

اَزْصَفَايِ دِلْ نَبَاشَدْ حَاصِلِى دَرْوِيشْ رَا ٭
نَانْ بَخُونْ تَرْمِيشَوَدْ صُبْحِ صَدَاقَتْ كِيشْ رَا ٭

Unto the darwīsh accrues no profit from purity of heart; the *True Dawn* hath its loaf (*the Sun*) moistened with blood (*red with vapour*).—*Sā'ib.*

بَرْ خِلَافِ صِدْقْ هَرْگِزْ دَرْ هَوَايَتْ دَمْ كِه زَدْ ٭
گَاوِشِ آنْ دَمْ چُو صُبْحِ آخِرِينْ سَوْدَا نَكَرْدْ ٭

Who hath ever breathed of love for thee, in opposition to the truth? Remorse for that breath has not profited like the *Latter Dawn.—Jamālu-'d-Dīn Salmān.*

Examples of the "*Wolf's Tail.*"

چُو صُبْحْ اَزْدُمِ گُرگْ بَرْ زَدْ زَبَانْ ٭ بَخُفْتَنْ دَرْ آمَدْ سَگْ وَ شُبَانْ ٭

When the (*true*) dawn shot up a beam of light from out

of the *Wolf's Tail*, the dog and the shepherd took to lying down.—*Nizāmī*.

دُمِ گُرگ اَسْتْ یَا دُمِ آهُو ٭ کِه هَمَه مُشْکْ بَارْ بَنْدَدْ صُبْحْ ٭

Is it the *Wolf's Tail*, or is it a gazelle's tail? For the dawn binds on (*to the zephyrs*), everywhere, loads of musk. —Khāqānī.

A doubtful allusion to the "*true dawn*," and, by implication, to the "*false dawn*," in Arabic, that I have quite recently met with, is differently explained by Jawharī in the *Sihāh*, voce سِقْطٌ, and is as follows. It is the only Arabic instance I can offer in illustration.

إِنَّ ٱللَّيْلَ ذَا ٱلسِّقْطَيْنِ مَضَى وَصَدَقَ ٱلصُّبْحُ

Verily the two-skirted night hath passed away, and the dawn hath become a reality.

The word سِقْطٌ means *a skirt or flap of a tent*, a strip of stuff added on to the bottom of the tent wall, to close the interval between the tent wall and the ground, in cold weather. The dual سِقْطَانِ may mean the two flaps on the two opposite sides of a tent, or two flaps added one below the other when the interval is wide. I take the latter view, in order to explain the above-given saying, as follows:

Bearing in mind the "chink in Caucasus" as producing the *false dawn*, and remembering that the sky is commonly compared to a tent, I imagine that here the idea has been used of a tent with two flaps, one below the other. "The *double-flapped* night has passed away"; *i.e.*, the *false dawn* has already shown itself through the interval of the two flaps of the sky at the horizon, the night has therefore come to an end, and daybreak has really appeared. Jawharī explains the passage by supposing that *evening* and *morning* are the two *edges* of the night; that the *two-edged night* has passed away, and that dawn has become a reality. But if the evening and morning have passed away, as edges of the night, the dawn must have passed away also.

Having thus endeavoured to show an analogy between the

False Dawn or *Wolf's Tail* and the *Zodiacal Light*, it may be hoped that opportunities will arise for an authoritative solution of this interesting question at the various observatories existing in India, or at some of the naval stations dotted along the coasts where Arabic or Persian is spoken, or by an independent astronomical orientalist who may have occasion to trace out and compare the phenomena with their names. If the *False Dawn* prove to be other than the *Zodiacal Light*, meteorologists, astronomers, and orientalists will feel deeply indebted to any one who will fully investigate and explain the true nature of the luminosity thus distinguished in the East from the dawn that is followed by sunrise.

When we are informed in our scientific guide-books that the Zodiacal Light was first observed by Kepler, who flourished from about A.D. 1595 to A.D. 1635, and that its name was given to it by the elder Cassini in A.D. 1683, those guides naturally mean to say that the first observation and naming of the luminosity by modern European astronomers was the work of those two eminent men. But, if the "False Dawn" be our Zodiacal Light, it has been observed and named in the East from the early days of Islām, if we can trace it no farther back. The Qāmūs, in which it is mentioned, as we have already seen, by its two Eastern names, was written before the year A.H. 816 (A.D. 1413), when its author died. But Lane quotes the Mugrib as also giving both names; and this work was compiled before A.H. 610 (A.D. 1213), the date of its author's decease, four hundred years before Kepler's time.

It is certainly singular that Ptolemy, the great astronomical writer of the Greeks, who lived in Egypt in the second century of our era, a country where the Zodiacal Light is naturally a conspicuous phenomenon, and who was a great celestial observer, appears to have overlooked this remarkable appearance. Had he mentioned it under any name whatever, it could hardly have remained unknown to modern Europe till the days of Kepler and Cassini.

I find that in the Hebrew original of the Pentateuch, the word שחר, Arabic اَلسَّحَرُ, is used to express "the morning,"

"the dawn," "the daybreak;" and, in one passage, it is rendered in the Septuagint by the word Ὄρθρος. According to Liddell and Scott, this word Ὄρθρος is also the name of a mythical dog, son of Typhaon and Echidna, that kept the herds of Geryon in the island Erytheia, and was there killed by Hercules in his tenth labour. Ὄρθρος is elsewhere styled "the two-headed dog of Geryon," killed by Hercules when he captured the oxen of Geryon in Erytheia, the fabulous island under the rays of the setting sun.

A question here arises: Is there any connexion between the "dog" of Geryon, and the "wolf" of the "wolf's tail" of the Arabs? The two heads of Ὄρθρος may refer to the two apices of the Zodiacal Light, one visible before daydawn, the other after nightfall, and both yielding a glimmer of light to assist in the watch kept by night over their flocks and herds by pastors. Furthermore, اَلسِّرْحَانُ is explained in the Qāmūs as being also the name of a certain dog. So that, although the Persian دُمِ گُرگ points to the wolf alone, the Arabic ذَنَبُ اَلسِّرْحَانِ may well be rendered by "Sirḥān's Tail;" and "Sirḥān," the dog, may possibly be a descendant, mythically, of Ὄρθρος. If so, one more ancient myth becomes resolved into a natural phenomenon. Do the Vedic hymns throw any light on this subject?

It is said that the identity of the "False Dawn" with the "Zodiacal Light" has been long ago established by scientific travellers, and that this fact is well known. I have not yet succeeded in ascertaining a passage in any author where this interesting discovery is recorded and buried; for neither Golius, Meninski, Freytag, Bianchi, Handjéri, Johnson, nor Lane have been aware of the circumstance, and all content themselves by translating the Oriental expressions by the term "the False Dawn." It is four or five years that I have gradually acquired a feeling that this "False Dawn" can be no other than our "Zodiacal Light," and I shall be most gratified if any authoritative identification shall enable future lexicographers to treat the terms as synonymous, so that coming generations of Oriental students and scholars

may be as well aware of the fact as they are that ذَنَبٌ means "a tail," and سِرْحَانٌ "a wolf."

Palgrave (Journey through Central and Eastern Arabia; fifth edition, 1859, p. 186, l. 31) says: "The Zodiacal Light, always discernible in these transparent skies, but now at its full equinoctial display, would linger cone-like in the west for full three hours after sunset, perfectly distinct in colour, shape, and direction from the last horizontal glimmer of daylight; while its re-appearance in the east long before morning could only be confounded by inexperience with the early dawn." Had he but mentioned the "false dawn," or the "wolf's tail," the question would have been settled. Alas! he is silent on this point.

ART. XIX.—*On a Chinese Version of the Sánkhya Káriká, etc., found among the Buddhist Books comprising the Tripiṭaka, and two other works.*[1] By the Rev. SAMUEL BEAL, M.A.

AMONG many valuable works found in the Buddhist Tripiṭaka recently presented to the India Office by the Japanese Government, there are three I will briefly notice, with a view to awaken some interest in this large collection now at the disposal of the student.

The first is an early life of Buddha, translated by Ta-lih (Mahâbâla) and Kong-meng-tsiang during the later Han dynasty. This dynasty ruled over China from A.D. 25 to A.D. 190. So that the date of the work under notice can be fixed between these limits. The translators probably lived towards the end of the dynasty—at any rate Dr. Edkins places Kong-meng-tsiang about 190 A.D. This date, however, must have reference to his death rather than to the time of his translations, if we are to place him during the later Han. I think we may safely date the work before us about 150 A.D., if not earlier. The book is a small one consisting of two parts comprising seven sections. The first chapter begins with the election of Dipañkara for the Supreme Buddhaship, and the book ends with the conquest of Mâra and his host. This alone proves its primitive character. It is, perhaps, a second and separate translation of the earliest version of the Lalita Vistara. It is known that the first translation of this book into Chinese was made by Chu-fa-lan and another, about the year 70 A.D. This work is lost. It is true that M. Stanislas Julien states that he had seen the Fo-pen-hing-king, and that it was in verse. But this work, which was composed by Asvaghosha, is the one translated into Chinese by

[1] It is hoped that the original Texts will appear in a future number of the Journal of the Society.—ED.

Ratnamegha of the Sung dynasty, and is identical with the Buddha-tcharita mentioned by Burnouf, and of a much later date than the Fo-pen-hing-king of Chu-fa-lan. Another name for this primitive work we are told was the Fang-teng-pen-ki-king. Now the translation before us is called the Sew-hing-pen-ke-king, which is only another form of the first title. This, taken in connexion with the brevity and completeness of the work, justifies us in supposing that the original, from which the translation was made, was the copy from which the expanded version known in Tibet and China under the title Lalita-Vistara, or Ta-Chwong-yan-king, was afterwards prepared. I do not intend to offer any lengthened remarks on this book, but will simply state that it contains forty double pages, and the headings of chapters as follows:

1. In-pin. Exhibiting changes.
2. Pu-sa-kong-shin.

Bodhisatwa descends into the world spiritually or as a Spirit or God. [In this chapter the conception is spoken of as the result of the descent of the Holy Spirit into the womb.]

3. Athletic contests.
4. Excursions for observation.
5. Leaving his home, or, as it has been well called, the Grand Renunciation.
6. The six years fast.
7. The conquest of Mâra.

There is another life of Buddha bound up in the same volume with the former, and translated during the Wu dynasty, *i.e.* between 222 A.D. and 264 A.D., by a lay Buddhist called Chi-kian. This writer, whom Edkins describes as belonging to the Massagetæ, flourished in China about 250 A.D. His work is entitled "The Felicitous Advent of the Royal Prince" (Ta-tsen-suy-ying-pen-k'i-king). It is in two parts, comprising 36 pages, and ends with the conversion of the Kasyápas. It is curious to notice how the legends after Buddha's conquest of Mâra are gradually added in the course of years, until we get to the expanded and verbose type represented by the Lalita Vistara.

Another work I may name as found among the books of the Tripiṭaka is a Chinese copy of Dhammapada. This work is known in Chinese as Fa-khen-king or Fă-khen-pi-u-king, that is, Parables illustrating Scriptural Extracts or Verses. The Preface states that these extracts were made from the Buddhist Canon at an early date, and were arranged in their present form by Dharmatrata, the uncle of Vasumitra. Vasumitra presided over the last council held by Kanishka; hence we may suppose that Dharmatrata lived somewhere in the early part of the first century B.C. The Chinese copy agrees with the Pali, except that there are eight sections prefixed to the work. The ninth section agrees with the first of the Pali, the subject being "Twin Verses."

As I am about to publish a translation of this work, I need not, here, add any more to these remarks.

A third work I shall name is a Chinese translation of the Sánkhya Káriká of Kapila Rishi. This book is called the "Golden Seventy Shaster," and in a note the Chinese editor states that this is a work composed by the "Heretical Teacher Kapila Rishi illustrating the twenty-five principles (Tatwas), and does not belong to the Dharma of Buddha."

It was translated into Chinese during the Ch'ên dynasty, which ruled from 557 to 583 A.D. The translator's name is *Chin-te*, which may be perhaps the same as the Sanskrit *Vijnâna*, but we can hardly suppose him to be the same as the Vijnâna Bhikshu referred to by Mr. Wilson as the author of the Sánkhya Sára, and also of the Sánkhya Pravachana Bháshya. At any rate the date of the Chinese version is satisfactory, as it proves that the Sánkhya Káriká and the Bháshya of Gaurapáda, which I find embodied in the work, were known in China so early as the middle of the sixth century A.D. Mr. Colebrooke considered Gaurapáda, the Scholiast or the Káriká, to be the same as the preceptor of the celebrated teacher Sánkara Áchárya, whom Mr. Wilson adds there is reason to place in the eighth century, and then, he continues, "how long before this the Kárikás existed in their present form we have no means of knowing." It is satisfactory to be able to produce a Chinese version made in the sixth century.

I have carefully compared the Aphorisms of the Chinese version with the translation of Mr. Colebrooke, and I find that they agree in a marked manner. The numbers, indeed, are different, for there are altogether 82 verses or Kárikás in the Chinese, but the redundant Aphorisms are nearly all extracted from the Bháshya. Where the two versions of the text are compared, the Chinese translation is shown to be most accurate; and the comments, which are plain and voluminous, leave nothing to be desired by way of elucidation.

The following is the result of a comparison of the order of the Aphorisms in the two translations:

Aph.	1. Sanskrit	1.	Chinese.
	2. „	2.	„
Aphorisms 3, 4, 5, 6, of the Sc. are embodied in the Ch. Commentary on Aph. 2.			
Aph.	7. Sanskrit	3.	Chinese.
	8. „	4.	„
	9. „	5.	„
	10. „	6.	„
	11. „	7.	„
	12. „	8.	„
		9.	„
	13. „	10.	„
	14. „	11.	„
	15. „	12.	„
	16. „	13.	„
	Bháshya	14.	„
	17. Sanskrit	15.	„
	Not found in Sanskrit .	16. 17.	„
	18. Sanskrit	18.	„
The two agree until Aph. 27.			
	27. Sanskrit end. . .	28.	„
		29.	„
	28. „	30.	„
	29. „	31.	„
	30. „	32.	„
	Not known	33.	„

31.	Sanskrit	34.	Chinese.
32.	„	35.	„
33.	„	36.	„
34.	„	37.	„
35.	„	38.	„
36.	„	39.	„
37.	„	40.	„
38.	„	41.	„
39.	„	42.	„
40.	„	43.	„
41.	„	44.	„
42.	„	45.	„
43.	„ probably .	46.	„
44.	„	47.	„
Not known .	. . . .	48.	„
45.	Sanskrit	49.	„
46.	„	50.	„
47.	„	51.	„
48.	„	52.	„
49.	„	53.	„
50.	„	54.	„
51.	„	55.	„
52.	„	56.	„
53.	„	57.	„
54.	„	58.	„
55.	„	59.	„
56.	„	60.	„
57.	„	61.	„
58.	„	62.	„
59.	„	63.	„
60.	„	64.	„
61.	„	65.	„
61.	Bháshya. Sanskrit .	66.	„
61.	„ „ .	67.	„
61.	„ „ .	68.	„
61.	„ „ .	69.	„
62.	Sanskrit	70.	„
63.	„	Not known.	

64.	Sanskrit	71.	Chinese.
65.	„ (comment).	72.	„
Not known	Sanskrit . .	73.	„
66.	Sanskrit	74.	„
67.	„	75.	„
68.	„	76.	„
69.	„	77.	„
70.	„	78.	„
71.	„	79.	„
		80.	„
Not known	. . . .	81.	„
		82.	„

I will only add that the Chinese translation concludes like the Sanskrit by saying that these truths were taught originally to Ásuri by Kapila, and to Panchasikha by Ásuri, from whom they descended to Ishwara Krishna, the author of the Kárikás.

Art. XX.—*The Rock-cut Phrygian Inscriptions at Doganlu.*

By Edward Thomas, F.R.S.

At the Meeting of the Royal Asiatic Society on the 18th March our Secretary adverted to the progress I had been able to make in the interpretation of the Phrygian Inscriptions at Doganlu. I am, therefore, unwilling to let the current Number of the Journal go forth without some notice of the present state of this investigation, though the time and the space conceded to me admit only of a general outline. Besides which, the available facsimiles, on which any decipherment must be based, are faulty and conflicting in themselves, though we may hope before long to be in a condition to obtain direct photographs of the monuments themselves, which will set at rest many of the disputed readings. The bulk of these epigraphs have been before the public for many years, and have exercised the ingenuity of several distinguished scholars.[1] The main obstacle to the success of Colonel Leake's and of other contemporary investigations was the expectation of a higher standard of Greek than the language of the legends authorized, and which was, therefore, pronounced to be barbarous and unintelligible. But the admission that the leading word designating the rock-cut faces themselves was nothing but the Latin *Ædes* led me to inquire whether there might not be a larger proportion of Latin forms in the rest of the inscriptions. That this would appear to be the case is demonstrated by the use among others of the words *AFοσαερ Avuser* (1), *Ματερες*

[1] List of modern authorities on the subject: W. Hamilton, Ægyptiaca, London, 1809. Jablonsky, Lingua Lycaonica, Leyden, 1809, iii. Chandler's Asia Minor, 1817, 272 et seq. Leake, Asia Minor, 1824. Walpole's Travels in Asia Minor, 1824, p. 22. Keppel's Journey, 1831, ii. 117 et seq. Cramer's Asia Minor, 1832, ii. pp. 5, 21. Grotefend, Transactions of the R.A.S. 1835, iii. 300. Chesney, Euphrates and Tigris, 1850, p. 334. Rawlinson's Herodotus, i. p. 666.

Matris (2), *Zοστυτινανοζ* (1), from the root "to sustain," and the crucial *Λαψιτ Lapsit.*

Alphabets.

In the present instance, alphabets will be seen to play a leading part. I ventured to propound a theory in the pages of our Journal, during the incomplete stages of the scientific development of Eastern Palæography, to the effect, that the Aryan races in their various ascertained migrations, whether forced or voluntary, *never* originated or perfected an alphabet *proper* or exclusively applicable to their own form of speech,[1] but invariably, as far as extant documents went to show, simply adopted and adapted the literal signs, however diversified, they found current in the lands of their advanced progress. This theory by no means implies that the dwellers in the ancient Aryan *nidus* could not *write*, but it singularly tallies with Grote's idea that, like the Archaic Greeks, they did not care to write.[2] The more settled commercial civilization of the old countries into which they intruded had necessitated a class of professional scribes, without whose aid ordinary business could not have been carried on.

Prior to the discovery of the Moabite Stone, of its now admitted context and of the positive impressions of the letters of the original *stèle*, no palæographer could have ventured to say that these Archaic Græco-Latin records were expressed in, *pro tanto*, the *same* letters as the coincident Biblical text of the Aramæan Stone; and yet it is so, letter for letter identities follow on, and there is no break in the continuity, even to the exclusion of the redundant 𐤈=Θ, till we reach the inevitable Aryan Y, which, in this case, stands as the *concluding* (or 22nd) letter of the alphabet, and, in this sense, recalls the traditional primitive Greek alphabet of 16 letters, *α*, *β*, *γ*, *δ*, *ε*, *ι*, *κ*, *λ*, *μ*, *ν*, *ο*, *π*, *ρ*, *σ*, *τ*, and *υ*.[3]

The alphabet of the Moabite Stone—of the date of 896 B.C.—at present the earliest example of its class we are able

[1] Meeting of the R.A.S. 9th April, 1866. Journal R.A.S. Vol. V. N.S. p. 420.
[2] Part 1, chapter xix.
[3] Kenrick's Phœnicia, 161.

to cite—is clearly no new invention, but a matured scheme of alphabetical writing; indicating, as it does, a considerable advance in the mechanical forms of the letters, beyond any stage of crude construction or imperfect classification, such as would appertain to a recent conception of the letters themselves, or to a limitation of their practical applicability to the purposes of expressing the language they were called on to embody.[1] The Royal road from Susa to Sardis of Herodotus (v. 52) must have constituted a well-beaten track and trade route from old-world times, and letters travelled lightly in accompanying invoices and lists of beasts of burden. One of the most interesting points in the general comparison of these alphabets is the number of positive identities of configuration to be found in the Phrygian Palæography as compared with that which the Etruscans and other nationalities carried with them to the lands of their adoption; including the dominance of the *F* [*digamma*] in Italy, a letter discarded by the later Greeks, which is in itself a striking incident. These, and many other questions of a similar character, I can merely allude to in this place, but trust to examine more at large in a future paper.

The next imperfect Greek epigraph, in serial order, of any extent, is found in the Carian record at Abu-Simbel (of the 7th cent. B.C.), containing the name of Psammeticus.

This inscription presents us with a closer relation to Phœnician teachings, in contradistinction to the Aramæisms of the Phrygian writings, as well as a far more decisive preponderance of Greek, whose alphabet rejects the *F*, but retains the Semitic *Θ*, and is enlarged by the new letters *X and Ψ*,[2] though it still remains deficient in the eventually incorporated *Z*, *Ξ*, and *Ω*.[3]

[1] M. Lenormant, who has made Ancient Palæography his special study, observes: "La grande inscription de Mésa, roi de Moab, gravée sur la stèle de Dhibân, . . . c'est à la fois le plus antique et le plus précieux monument parmi tout ce que l'on possède de l'épigraphie sémitique; pourtant déjà l'écriture s'y présente avec un aspect comme fatigué et usé dans la forme de certains caractères, qui révèle plusieurs siècles d'usage antérieur de ce type graphique."—F. Lenormant, l'Alphabet Phénicien, Paris, 1872, vol. i. p. 128.

[2] It is a question if this is not the mere Semitic Ψ.

[3] Boeckh, iii. 507; Lepsius, vi. Bl. 99, 531; Herodotus, ii. 154.

The Carians, who were δίγλωσσοι, seem to have had no *digamma* in their second vernacular—though their neighbours, the Lycians, rejoiced in a superabundance of these letters. The *Z*, however, seems to have been a very common letter in the Carian dialect, to judge from the bilingual inscriptions at Cadyanda,[1] where we find it duplicated thus in the word *ZZAAA*, in the Greek version ΣΑΛΑΣΣ, "a tomb."[2] The Lycians appear, also, to have combined the double *Z* into Ξ, another form of the proper Ξ.

The Inscriptions.

These inscriptions are cut on the surface of the rock on or around the central architectural representation of the front of a temple, Doric in character, but having more the appearance of prototypes than of adaptations of that order,[3] and, as far as the obvious imitation of wooden structures permits us to judge, are surmounted by the crude outlines of a *caput bovis*.[4] They are designated in the legends by the term *Ædes*, which may imply a house, a quasi-temple, a tomb, or a cenotaph. It is probably under the latter aspect we must view them, for no chambers and no deposits have been discovered in the rock to the rear of the front face. The *boustrophédon* inscriptions are inserted, somewhat at hazard, in regard to their position or proximity to the leading device, the details of which will be found in the following summary. It is a matter of importance to remark the similarity of the temple fronts with those of Lycia, and the contrast presented in the Tombs and Tumuli of Alyattes[5] and

[1] Fellows, Lycia, p. 116, and woodcut of tomb, p. 117. Fellows imagined *zzala* to be a proper name. See his Coins, p. 10.

[2] ψαλίς, σάλαξ, σαλάγξ, Hesych. Σοῦα was also Carian for a tomb.

[3] Mr. Fergusson, in discussing the probable age of these monuments, says: "They may be dated as far back as 1000, and most probably 700 years, at least, before the Christian era."—History of Architecture, vol. i. p. 224.

[4] The *caput bovis* was a favourite device wherewith to crown an arch. See Fellows, Lycia, p. 142; Tomb at Pinara, and also his Xanthus, p. 65; Boeckh, Corpus, iii. 2, No. 3817; M. Kinneir, Asia Minor, p. 541; Leake, Asia Minor, 20, 27. The Etruscan coins of the Vestini give the exact front type of the bull's head, with the two balls above. Fabretti, pl. iv. *a*, page cclxviii. No. 2891: "Numi aenei fusi Vestinorum nomine (Lanzi, ii. 603, etc.) *a* Diobolus: caput vituli obversum, supra duo globuli. VES: luna crescens."

[5] Herodotus, i. 93; Strabo, xiii. iv. 7; Fergusson, History of Architecture, vol. i. p. 222.

the successors of Gyges at Sardis—which, if methods of burial constitute a test, imply that this later dynasty of Lydia belonged to a different race from that of the preceding Phrygian kings.

Dates.

Perhaps but few classical archæologists will be prepared, at first sight, to admit the application of the Oriental system of *Letter* dates to anything within the range of Greek civilization, at so early a period as the entries preserved in these Phrygian Inscriptions. But the local races, in borrowing Oriental alphabets, probably learnt the associate use of the letters in serial order as numerical signs.

The age definition of 29 (No. 4) will scarcely be contested, but the more important epoch date of 301 (No. 5) may form a subject of controversy both as to the corresponding numbers and as to their interpretation by any appropriate era of which we have cognizance. As for the date itself, I can make no use of it for the purposes of fixing the period of any given Phrygian king. It is apparently only the record of *the date*, when a certain Chersonésian affixed his name, in independent action, but possibly with some authority, to the leading epigraphy of the central sculpture.

Though *TA* confessedly meant in ancient Greek, 301, yet the question has already been raised, in an adverse sense—as to how it can be proved that *T* stood for 300 at so primitive a stage of alphabetical writing? It is clear, however, that if this Oriental method of dating, alphabetically, was in existence at the time, the 21st letter of the Aramæan alphabet of Mesha's *stèle* could stand for nothing but 300. The determination of the era to which the 301 refers, is, therefore, of less importance than it promised to prove on its first discovery.

The only era that suggests itself as at all suitable is that of the Eastern Heraclidæ, whom Herodotus tells us could count 22 generations or 505 years, before Gyges,[1] whose

[1] "The government, which formerly belonged to the Heraclidæ, passed in the following manner to the family of Crœsus, who were called Mermnadæ. Candaules, whom the Greeks call Myrsilus, was tyrant of Sardis and a descendant

accession is now conclusively assigned to 716 B.C. The initial date, therefore, from which we should have to reckon would be 1221 B.C., and the entry of *TA* on the Phrygian rocks would fall-in with 920 B.C.[1]

Names.

The group of royal names recorded on these rocks, when critically examined, ought to supply important data towards determining the dynastic family to whom they refer.

The leading name of the common ancestor is unfortunately undetermined, appearing as it does under the conflicting palæographic outlines supplied by the only two authorities who have visited the site. Texier, who transcribed the legends mechanically, in facsimile, states that he took unusual care in the process, because the characters were new to him.[2] His transcript runs, in distinct letters, EPEKYN. Whereas Steuart, who prided himself

of Alcæus, son of Hercules. For Agron, son of Ninus, grandson of Belus, great-grandson of Alcæus, was the first of the Heraclidæ who became king of Sardis; and Candaules, son of Myrsus, was the last. They who ruled over this country before Agron were descendants of Lydus, son of Atys, from whom this whole people, anciently called Mæonians, derived the name of Lydians. The Heraclidæ, . . . having been entrusted with the government by these princes, retained the supreme power in obedience to the declaration of an oracle: they reigned for 22 generations, a space of 505 years, the son succeeding to the father to the time of Candaules."—Heredotus, i. 7.

[1] This is no new proposition for the application of this scheme of testing ancient dates, as may be seen by M. Freret's "Canon Chronologique."

"Conqueste de l'Asie Mineure et d'une partie de la Thrace par Sesostris Roy d'E'gypte.

1590 B.C. Cadmus s'establit à Thébes en Bœotie.

1579 B.C. Manès ou Maïon regne sur la Lydie et sur la Phrygie: il y establit le culte de Cybéle et d'Atys sur le modelle des festes d'Isis.

1547. Etablissement des forges de fer sur le mont Ida en Phrygie par les Dactyles Idéens.

1484 . . Akiamus Roy des Mæoniens de Lydie, qui regnoit après Lydus fils d'Atys et petit-fils de Mæon.

1425. Fondation de Troye.

1423. Arrivée de Pélops dans la Gréce.

1349. Naissance d'Alcée fils de d'Hercule; c'est de luy que descendoient les Héraclides qui ont regné en Lydie.

1219. Argon descendu d'Hercule monte sur le trone de Lydie, où ses descendants regnent jusqu'à la 22me génération.

714 B.C. Révolte de Gygès, et fin des Roys Héraclides de Lydie."

M. Freret, Histoire de L'Académie Royale des Inscriptions, vol. v. 1729 p. 311.

[2] "Ces caractères étant nouveaux pour moi, j'ai dû les copier avec le plus grand soin, noter exactement le nombre de points qui séparent chaque mot, le nombre de barres des lettres qui ressemblent à un E; ainsi dans le mot ATES, la lettre qui représente l'E n'a que trois jambages."—Texier, p. 155.

on his aptitude in copying Greek inscriptions,[1] makes the name appear as FPEKYN. If this is the correct form, an attempt might be made to render the opening letters ΠΡΕ for *φρε*, as the Phrygians were said to be unable to pronounce the *φ*. For the rest, we can quote with some confidence the names of Menes, Atys, and Midas. The two former represent some of the earliest reminiscences of the Phrygian kings. The name of Menes is directly or indirectly associated with Egyptian traditions, and that of Atys is connected with the most primitive myths of the home soil. Midas, though so distinctively Phrygian, carries with it less evidence of remote antiquity.[2]

But the Menes or Manes, with its special prefix of *Baba*, obviously points to very old-world stories, and the name of Atys equally secured among the local races the now too common title of *παπα*.[3] In considering these ascertained names, it would seem that they pertained, both in titles and dynastic attributes, preferentially to the Atydæ[4] rather than to the

[1] "Having had a good deal of experience in copying inscriptions, and having bestowed the utmost attention upon these, I think I can vouch for their fidelity and correctness, the more so as they are in very good preservation: the only portion, and that a very small one, respecting which I had *any* doubt, is that immediately under the central pillar."—Steuart, p. 11.

[2] The local associations of the name are preserved in the town of Midaium, between Dorylæum and Pessinus.—Athenæus, xv. 31. Cramer, ii. 20.

[3] Cybele's Atys is alluded to as Ἄττιν, ὕστερον δ' ἐπικληθέντα Πάπαν.—Diod. Sic. iii. 58.

Papas. Etruscan. Fabretti, 1323. PAPATI OPTIMO, etc.

The Phrygian Inscriptions abonnd in the use of the term—*inter alia*, see Boeckh, vol. ii. p. iii. *b*, Nos. 2358 (iii.), 3803, 3817, 3823. Fellows' Asia Minor, p. 126.

In later days the term فاني *Papus* is applied to *Máni*.

[4] The dynasty of the Atydæ had but a brief career of 87 years. The editor of the French edition of Moses of Khorene in his Index, or Dictionnaire Historique, etc., pour servir d'annotations à l'histoire d'Armenie, arranges the succession as follows, p. 126: "Trois dynasties de rois, les Atyades (1579—1492 avant J.C., entre lesquels Lydus d'ou vient Lydie), les Héraclides (1292—708), les Mermnades (708—547)."

Eusebius in his Canon has but casual notices of the Phrygian kings.

p. 289, Phrygibus, qui etiam Maeones dicebantur, dominatus est Tantalus. An. Abrahami 657.

Midas in Phrygia regnavit, 707. Ilium condita est, 709.

At p. 47 there is a list of the Lydian kings commencing with Ardysus.

At p. 95, *á* Μήνης Θενίτης. p. 94 (n. s.), In textu codicis huic et inferius Memes, at in margine Menes.

Cory in his Fragments (p. 94) gives the various texts of the Dynasties of Manetho and, in the Latin translation of the Armenian, the name is uniformly written *Memes*.

Heraclidæ. Further, if we follow up the comparison into geographical bearings, we see that the Necropolis of the old Phrygians was not far removed from the site of their ancient *Metropolis* N. of Synnada.[1] Whereas the capital of the Heraclidæ was at Sardis, and their burial-ground in suburban proximity, consisting of *Tumuli*[2] of a distinctive character and altogether alien to the tomb stones supplied by the natural rocks at Doganlu. Moreover, to test still further the geographical indications, it is known that the most archaic fables of Atys, the son of Nana and of the shepherd of Celænæ, point to this more southern site, as the early home of the Atydæ ; a position so well chosen, that it seems to have constituted a second capital in proximate times,[3] where afterwards Xerxes and Cyrus the Younger had their palaces;[4] while its situation, as a commercial centre, secured its heritage to the celebrated emporium of Apamea Cibotus.[5]

Of course, we must take into account the possibility that these rock-cut temples may have been the work of a local dynasty contemporary with, and, perhaps, owing allegiance to the Heraclidæ: moreover, assuming them to have been merely dedicatory or votive structures, they may have been the creation of widely-separated periods, an idea that the introduction of new letters into some of the later legends rather encourages. We know that Manes worshipped[6] in Phrygia and Atys was equally elevated into a deity,[7] perhaps only in the ordinary course of ancestral or hero worship.

[1] Strabo, xii. viii. 13, xiv. ii. 29. Cramer, Asia Minor, ii. 29.

[2] Tumuli seems to have been accepted as a rule in the Iliad. "The top of the tomb of old Æsyetes," ii. 793. In the plain of Troy itself was to be seen "the lofty mound" which men call "Batieia; but the immortals the tomb of the bounding Myrinna," ii. 814. Then we have Tomb of Aetion, vi. (xii. 114). And lastly the tumulus of Patrocles, xxiii.

See also, Odyssey, ii. 222, etc. Chandler, 302. Captain Newbold, J.R.A.S. vol. xiii. p. 88. Fergusson, vol. i. p. 221.

[3] Herodotus vii. 26. *Λιτνέρσας δὲ ἦν μὲν νίδς Μίδου νόθος, Κελαινῶν δὲ τῶν ἐν Φρυγίᾳ βασιλεὺς.* Athen. x. viii. p. 415. Also Dionys (Nonnus), xiii. 514.

[4] Xenophon, Anab. 2, 7. The true position of the town is now fixed in 38·2 N. 30 21 N.

[5] Strabo, xii. viii. 15. Chandler, 273. Many later coins have ΚΙΒΩΤΟC ΑΠΑΜΕΩΝ.

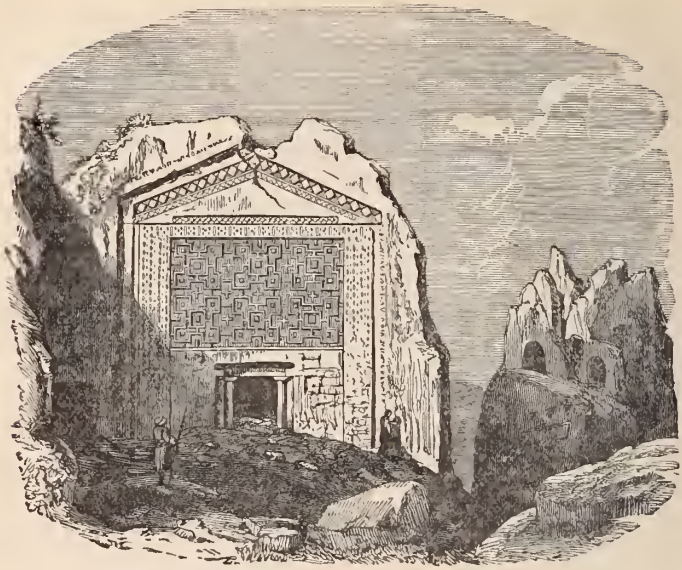
[6] *Φρύγες δέ Μήνη* (Phryges colunt Menam).—Athenæus. Jov. Frag. ii. 42.

[7] Pausanias vii. xvii. "The Dymæi . . . have also another temple sacred to the mother Dindymene (Cybele) and Attes, but who this Attes is I have not been able to discover."—vii. 20, 2. At Patræ, there is "a temple of the mother Dindy-

There are a great many other names and nominal terms, personal and geographical, amid these detached epigraphs, the consideration of which it will be as well to defer, till we can obtain improved facsimiles of the originals. The same remark applies, with still more force, to any immediate examination of the construction of these composite legends, which, to use a term of the elder D'Israeli, may be expected to furnish some veritable "Curiosities of Literature." I, however, append for the exercise of other people's experimental criticism as good a combined transcript of the inscriptions (reduced into small Greek), as I can obtain from the mechanical eye-copies at present available.

mene in which Attes is honoured, they do not, however, exhibit any statue of the god, but there is a stone statue of Dindymene."—Translation of T. Taylor, 1826.

Hesyc., sub voce Ἄττης. Lucian, vol. i. p. 233, Deorum Dialogi xii. vol. iii. 461. De Syria Dea, sec. 15. Keppel, vol. ii. p. 351; Μηνιτυράννος. Orellius, Inscr. 1827, vol. i. Nos. 1900, 1901–2264, "M.D. M.I. et Attidi Sancto Minoty ranno," and No. 2353.



The Cenotaph of Menes (No. 6) at Doganlu; in the legends *above* which (No. 7) the names of Atys and Midas occur.[1]

The Rock-cut Phrygian Inscriptions at Doganlu.[2]
(Pl. 59 Texier. Pls. xiii. xiv. xviii. Steuart.)

(Reduced into Small Greek. The normal alphabet is deficient in the letters θ, χ, and ω. The eccentricities of the original definitions of ζ, ξ and σ, have been studiously reproduced; the η is formed by the addition of a fourth limb to the E.)

1. Inscription on the frieze of the main architectural Tablet, cut on the face of the rock, in imitation of the porch of a Temple.

Ερεκυν ⁘ Τελατοζ ⁖ Ζοστυτινανοζ ⁝ Ακενανος ⁝

Extra or additional title engraved on the rough rock, in continuation of the legend on the frieze proper, *AFοσαερ*.

At the foot of the right ornamental column, filling in two square compartments, *Νεγερτος*.[3]

[1] I am indebted to the kindness of Mr. Murray for the use of this woodcut, taken from Dr. P. Smith's "Student's Ancient History of the East."

[2] 39·20 North; 30·35 East, according to Col. Leake's Map. The latest authorities, cited by Smith and Grove, place the "Castellum et Sepulcra regia" in 39·12 N. 30·52 E.

[3] This possibly important record has some appearance, like the AFοσαερ above

2. Immediately above the sloping cornice of the architectural front, reading from right to left.

Ματεραν ⋮ Αρεσαζτιν —— Βονοκ ⋮ Ακενανογαϝο. .

3. On the rough rock above, clear of all the ornamental work, reading from right to left.

Κελοκεζ ⋮ ϝεναϝτυν ⋮ Αϝταζ ⋮ Ματερεζ (*a*)

4. (*b*) reading from left to right

Ζοσεσαιτ ⋮ Ματερεζ ⋮ Εϝετεκετιζ ⋮

(*c*) *Οϝεϝιν ⋮ ονομαν ⋮ Λαψιτ ⋮ ΓΛ*

5. On the free rock in a line with the ornamentation of

noted, of being a later addition to the bulk of the inscriptions. It has been copied evidently with great care by Texier, and is reproduced on two occasions, in the MS. facsimile p. 157, and, in the lithograph of the Rock front, in Plate 59. Unfortunately the two copies do not agree; in the former he gives the legend as ΓΕΙΡΤοΓ, while in the latter, where he was tied down to the filling-in of the space afforded by the two square compartments which occupy the base of the ornamental pilaster to the right, his copy runs as *νεγιρτογ*. The increased height and greater length of the top-stroke of the T in this case are remarkable, but they may be due to the mere demands of space, which would not admit the top line on the general level of the head lines, within the given area of the square. I may add that the facsimile Plate shows that the lower compartments on each side, immediately above the position of this entry, are filled-in with a pattern in the form of a cross, unlike the design of the ordinary four wooden diamonds, which supply the rest of the ornamentation, and moreover the corresponding pair of foot squares, to the left, are retained as blank surfaces, unornamented and uninscribed. If we could rely upon Texier's architectural measurements, it would also seem that the Tablet itself has had an addition made to its height by lowering and extending the cutting at the base, as the outline now varies considerably from the *squat* proportions of the two associate Rock-cut faces in the same locality. Steuart has also reproduced this graphic addition to the design of the rock front no less than three times, twice in his Plates, where he gives the legend at full length, but at the foot of the general design—free from all involvement with the pattern of the rock-cut frontispiece, which might have compelled him to a second test, and once in his plate of Facsimiles; in all these instances he is determined as to the one reading *νεγερτος*, and in no case does he discriminate the enlarged height of the T, which is palpable in both Texier's copies. His final *s* may have been an anticipated finish to a presumed Greek word, but Texier seems to be quite clear as to the Γ, though it must be admitted that a very slight slope of the upper limb and a scarcely perceptible backward continuation at the foot would convert it into a Z or Σ. The *figures* ΤοΓ, assuming them to be such, would stand for 373, or, omitting the *θ* from the ruling alphabet, for 363—which would bring the entry to the corresponding date of 848 or 838 B.C., and would certainly accord better with the period of a retouching of the Tablet rather than with the epoch of its primary execution. On the other hand, the word *νεγερτος*, with the avowed uncertainties of *γ* s and *κ* s, is too near an approach to an appropriate term, at the foot of a quasi-tomb—emanating from NEK (*νεκρος*), Sanskrit *nakk*, Latin *nex*, *necere*, to admit of our receiving the three last letters as a definitive date; especially in the absence, or possibly obscured entry, of the divisional three dots, which in the parallel cases so palpably mark the isolation of the *literal* figures. The omission of the usual Ædes in the heading may also be taken to show the need of some alternative term.

the right columnar face, reading *downwards* from the *outside* view,

Ατανιζεν ⋮ Κυρζανεζον ⋮ ΤΑ

[*i.e.* 301, or dating from 1221 B.C.—the commencement of the era of the Heraclidæ: 1221 less 301=**920 B.C.**].

On another ornamental rock-cut front, imitating the porch of a Temple.

(Plate No. 56, Texier. Pls. xi. xviii. Steuart.)

6. In a line with the right columnar ornamentation, reading upwards from the outside.

Βαβα ⋮ ΜημεFαιξ ⋮ ΠροιταFοξ ⋮ ΚφιζαναFηζοξ[1] *⋮ Ξικενεμαν ⋮ Ηδαηξ.*

7. On the rock above, clear of the prominent architectural device.

Ατες ⋮ ΑρκιαεFαις ⋮ ΑκενανογαFος ⋮ Μιδαι ⋮ ΓαFαγταει ⋮ Fανακτει ⋮ Ηδαες.

8. Inscription in a rough grotto to the left of the leading Tablet. (Hamilton, p. 418. Texier, p. 156. Steuart, p. 10.)

. . αξ ⋮ Τυλ τηνιζ ⋮ αη ⋮ Ηξυρσοσος ⋮ Τινιρα.[2]

9. Steuart, No. 5. "Near a rock-cut niche or altar," at Doganlu.

Βρα ΜενεFαιξ ⋮ Προιτα.

Second line, reversed legend, from right to left.

. . ΚτιαναFεσοξ ⋮ Ακαραγασυν.

Third line, left to right,

Εδαες.

10. Steuart No. 6. "Cut on the side of a seeming altar or throne," at Doganlu.

Ακ αε ⋮ Fγεαν ⋮ Τριεζ.

Reversed writing from right to left

μολεοιαν ικ αιλγε.[3]

11. Steuart No. 4. [*β*]*αβα Σιλαιακιο.*

[1] Walpole (p. 207) and Texier insert two disjunctive dots after the *κφι*, the other three transcribers omit these dots. The entire five copyists concur in the definition of the letter *φ*—which amid round-topped As might otherwise have been taken for that letter.

[2] Steuart gives IoTIN ⋮ IIIoAΓ

[3] The *ρ* is given in the Plate as *υ*, the second *ο* as a possible Umbrian or Etruscan *θ*, but the *dot*, in the centre, is not well defined.

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ERRATUM.

Professor Haug was *not* an Honorary Member of this Society.

ROYAL ASIATIC SOCIETY.

PROCEEDINGS

OF

THE FIFTY-FOURTH ANNIVERSARY MEETING OF THE SOCIETY,

Held on the 5th of June, 1877,

SIR THOMAS EDWARD COLEBROOKE, Bart., M.P.,

PRESIDENT, IN THE CHAIR.

Members.—The Council of the Royal Asiatic Society have to report to the Members of the Society that, since the last Anniversary Meeting, held in the Society's Rooms on May 29, 1876, there has been the following change in and addition to the Members of the Society.

They have to announce with regret their loss by *Death*, of their *Resident* Members—

Sir John William Kaye, K.C.S.I.,
Thomas Charles Smith, Esq.,
John Dickinson, Esq.,
David Urquhart, Esq.;

and of their *Non-Resident* Members,

Colonel Alwes,

and of their *Honorary* Members,

Edward William Lane, Esq., Corr. Mem. of the Institute of France,
Hermann Brockhaus, Phil. D.,
Prof. Martin Haug;

and, by *Retirement*, of their *Resident* Members,

Major-General Sir W. E. Baker, K.C.B.,
E. Curzon, Esq.

On the other hand, they have much pleasure in announcing that they have elected :

as *Resident* Members,

Captain C. J. F. Forbes,
The Earl of Northbrook, K.G.,
Mrs. Cadell,
Alexander Burrell, Esq.,
Sir W. Muir, K.C.S.I.,
W. H. Rylands,
Dr. Birdwood, C.B.,
Sir Douglas Forsyth, K.C.S.I., C.B.;

and as *Non-Resident* Members,

E. Schuyler, Esq.,
D. W. Fergusson, Esq.,
B. H. Chamberlain, Esq.,
Rev. T. W. Hughes,
Raja Vijayendra Bhow,
R. H. Butts, Esq.,
R. Carr Woods, Esq.

The Society therefore has elected eight *Resident* Members against a loss of four Resident, and seven *Non-Resident* against a loss of one Non-Resident.

On the personal history of some of those we have lost a few words will now be said.

(1). The late Sir *John Kaye*, F.R.S., the son of John Kaye, Esq., at one time Solicitor to the Bank of England, was born in 1814, and, after some time spent at Eton, entered the Bengal Artillery, in which corps he served for several years. Having returned to England in 1845, Mr. Kaye devoted himself for the rest of his life assiduously to literature, some zeal for which he had already shown in early life, while still in the East, having been a zealous contributor to different newspapers, and the founder of the *Calcutta Review*, of which he was for some time the Editor. In 1856, he entered the Home Civil Service of the East India Company, just one year before the Mutiny, and, not long after, succeeded Mr. John Stuart Mill as the head of the Political and Secret Department of the India Office Secretariat, a post he held till failing health compelled him to retire from it in 1874. Sir John Kaye

was the author of many works, which will long survive him, distinguished as they may be all said to be by the desire for careful research, and for arriving at a true and honest conclusion from the premisses before him.

His chief published works were: A History of the War in Afghanistan. 2 vols. 8vo. 1851.—The Administration of the East India Company; a history of progress. 8vo. 1853.—The Life and Correspondence of Lord Metcalfe, late Governor-General of India, Governor of Jamaica, and Governor-General of Canada. 2 vols. 8vo. 1854.—The Life and Correspondence of Henry St. George Tucker, late Accountant-General of Bengal and Chairman of the East India Company. 1854.—Life and Correspondence of General Sir John Malcolm. 2 vols. 1856.—Christianity in India; an historical narrative. 1859; and a History of the Sepoy War of India in 1857–8; the second volume of which appeared in 1871. As this work was naturally—indeed, in some places, severely—criticized, it is unfortunate the writer did not live to complete his third and final volume. Writing to an old friend, about three months before his death in last July, in allusion to a criticism in the *Times* on this work, he says: "I feel with you that it is a great evil so great an authority as the *Times* should be led so grievously astray in the path of error. I have often stated that I reserved my summing up for its proper place, in the last volume of the history; . . . . . and if God gives me life and my present clearness of brain, I will do my best to smash it. . . . Carlyle says, 'All lies have the sentence of death recorded against them from the hour of their birth,' and this must be one of our dying consolations if we do not live to see the day."

(2). Mr. *Edward W. Lane* was born at Hereford in the year 1801, being the son of the Rev. Theophilus Lane, who, after serving for some time in the American War, quitted the army, and, entering holy orders, became, ultimately, a Prebendary of the Cathedral Church of Hereford.

Having shown at school a remarkable aptitude for mathematics, Mr. Lane was sent to Cambridge; but, after a short residence there, removed to London, to study engraving with his late brother, Mr. R. J. Lane, A.R.A. Finding, however, the confinement of this occupation injurious to his health, which was never strong, he sailed for Alexandria in 1825, some inducement to this course having, no doubt, been, the knowledge he had acquired of Arabic during the three preceding years, combined with the interest, everywhere aroused, by the then fresh discoveries of Young and Champollion. It was a fortunate thing for him that he had, already, become an adept in the use of the *camera lucida*, under the personal instruction of its inventor, Dr. Wollaston, as he was thus able to secure copies of the ancient monuments of Nubia and Egypt, almost as faithful as photographs, and far more pleasant to the eye. The result of Mr. Lane's three years' sojourn in Egypt on this occasion, was the acquirement of a perfect knowledge of the local dialects and the habits of the people, of many valuable maps, and of a portfolio of drawings from the Egyptian monuments exquisitely traced *in sepia*. These drawings have, unfortunately, never been published; but they led, indirectly, to the public recognition of his abilities as an artist; for, having been seen by some of the members of the Committee of the then young Society for the Diffusion of Useful Knowledge, Lord Brougham induced its Committee to recommend the publication of a portion of Mr. Lane's "Notes," a second journey to Egypt being the first step to this, and his admirable work on the "Manners and Customs of the Modern Egyptians," the result. During the year and a half (1833-5), which he spent, chiefly in Cairo, in perfecting a work (the popularity of which was so great that the whole of the first impression was sold off in a fortnight), Mr. Lane made the acquaintance of M. Fresnel, the greatest Arabic scholar in France since De Sacy, and discussed with him the scheme he had already meditated over, of a future Dictionary of the

Arabic Language. M. Fresnel, to his honour, joined heart and soul in Mr. Lane's plans.

The "Manners and Customs of the Egyptians" was published shortly after Mr. Lane's return to England, in 1836, and, since then, there have been five subsequent editions, together with a translation into German, and a reprint by Mr. Charles Knight, in 1846, in 3 vols. 12mo.

Mr. Lane remained in England for the following five years, chiefly engaged in the preparation of the translation of a work whereby he is probably better remembered by the English public, than even by his "Manners and Customs." Many of us can recollect what "The Thousand and One Nights," or, as the book was more usually called, the "Arabian Nights Entertainments," was like, before the year 1840. It was amusing enough, it is true; and, as such, was eagerly read by all classes; but, assuredly, it did not adequately represent the original of which it professed to be a translation. To Mr. Lane belongs the credit of enabling unlearned English people to read these quaint pictures of Eastern life in an Eastern dress. Mr. Lane, during the same period, laboured assiduously to promote the views of the Oriental Translation and Text Societies, then warmly supported by Prof. H. H. Wilson, Mr. Bland, and other English scholars.

The object of Mr. Lane's third and last visit to Egypt was the carrying out of the plan he had so long and so carefully considered,—the construction of a complete Arabic-English Lexicon of the Classical Language, drawn, to use his own words, "chiefly from the most copious Eastern sources." To enable him to do this, he had the active and willing aid of Algernon, Duke of Northumberland, to whose munificence, while he lived, and to that of his widow, subsequently, the payment of all costs required, not only for its publication, but for the collecting of the essential materials and for the transcriptions of the necessary MSS. at Cairo, is, in a great measure, due. To what a length these transcriptions extended will be

best understood when it is stated that the copy of one dictionary alone, the "Táj-el-Aroos," fills twenty thick quarto volumes, and occupied more than thirteen years in its transcription and collation.

After seven years of unremitting labour in Cairo, Mr. Lane returned to England, and, about a year subsequently, took up his abode at Worthing, where he continued to work on steadily at the Lexicon, till at length, in the year 1863, he had the satisfaction of bringing out the first volume, after twenty years of unwearied application. Since then, four other volumes have been issued from the press, at intervals of two or three years, the sixth being now nearly ready; two more volumes, it is believed, will bring this great work to a final conclusion.

An objection has been raised to the plan Mr. Lane found it compulsory on him to adopt, in that he has excluded all words formed since the classical times of the Arabic language. But a simple answer to this is, that no one book could have been made large enough to contain them all; while many, especially those of the latter class, are already incorporated in other dictionaries, or have been explained in the numerous translations and commentaries published by various editors of Arabic texts.

Mr. Lane was a Corresponding Member of the Institute of France, an Honorary Member of the Royal Society of Literature and of the German Oriental Society, and an Honorary Doctor in Literature of the University of Leiden.

(3). Besides Mr. Lane, Orientalists have, also, to mourn the loss of another great scholar, whose influence over a large number of Sanskrit pupils and scholars was very widely felt. Prof. *H. Brockhaus*, who died at the close of last year, at the age of 71, was born at Amsterdam in 1806, and the son of F. A. Brockhaus, the founder of the eminent publishing house of that name at Leipzig. Early in life he devoted himself to the pursuit of Oriental literature, studying in the Universities of Leipzig, Göttingen, and Bonn, and, subsequently, spending

some time in the thorough examination of the Oriental libraries of Copenhagen, Paris, London, and Oxford. As a Professor of Oriental Languages, he commenced his career at Jena in 1839, as "Professor Extraordinarius;" settling, however, two years later, at Leipzig, where, in 1848, he was appointed "Professor Ordinarius" of Indian Languages and Literature. Prof. Brockhaus lectured chiefly upon Sanskrit; but there were scarcely any Eastern tongues of which he had not acquired considerable knowledge. Thus he is known to have studied Hebrew, Arabic, and Persian, and, though, in after days, Sanskrit may fairly be considered to have been his *specialité*, he occasionally lectured on Páli, Zend, and even on Chinese. The principal work Professor Brockhaus published was the "*editio princeps*" of the *Kathá-sarit-sagara* (with a translation in German)—Leipzig, 1839–1866—being the large collection of stories in Sanskrit, collected together by Soma Deva in the twelfth century, a work which gave the first scientific impulse to the study and investigation of the origin of Popular Tales, and thus enabled Prof. Benfey and others to trace back a large proportion of Eastern and Western stories to an original Indian source. Some of the episodes of this great work have been, from time to time, published separately. Prof. Brockhaus also edited the *Prabodha-chandrodaya*, a comedy by *Krishṇa Miśra* (1834–45), and issued a treatise, "Ueber der druck der Sanskritischer werke mit Lateinischen Buchstaben" (1841), in which form the *Ghakarpara*, the *Mahamadgara*, and other pieces were printed. Besides these purely Sanskrit works, Prof. Brockhaus gave to the world an edition, the first generally accessible, of the *Vendidad Sade*, in Roman characters, with a valuable Index and Glossary (1850); a critical edition of Hafiz, with Sadi's commentary (1854–61); and of Nachshebi's Persian recension of the "Seven Wise Masters" (1845).

Prof. Brockhaus was one of the founders of the "Zeitschrift der Deutschen Morgenlandischen Gesellschaft," and its chief

editor since 1852. He also started, in 1857, the "Abhandlungen" to this valuable periodical, of which five volumes have already been printed. In this Journal, as well as in the "Berichte der Sachsischen Gesellschaft der Wissenschaften," many original communications from him have been preserved. It may be fairly said that it has been mainly owing to the energy and judgment of Professors Brockhaus and Curtius, that Leipzig has become the first Philological School in Germany.

(4). Prof. *Childers*, who, to the irreparable loss of one great branch of Oriental learning, died last July, at the premature age of thirty-eight years, was the son of the Rev. Charles Childers, for many years the English Chaplain at Nice. After having passed a short time at Wadham College, Oxford, where he obtained a Hebrew Scholarship, he proceeded to Ceylon in 1860, before he had taken his degree; but, after acting, for three years, as private secretary to Sir Charles McCarthy, the Governor of that Island, was compelled by ill health to return to England in 1864. The same weakness of constitution, for some years, compelled him to relinquish his studies in Pali, in which he had already made great progress under the able guidance of *Yátrámulle Unnanse*, a Buddhist scholar of the highest character. By the advice and encouragement of Dr. Rost he was, however, induced to take up again, in 1868, the earnest study of that language—so that he was able, in November, 1869, to publish in the Journal of this Society his first contribution to Pali literature, the text of *Khaddaka Pátha*, with an English translation and notes. This paper was read before this Society on February 15th, 1869.

With the exception of Mr. Fausböll's *Dhammapada*, the collection of Buddhist hymns thus published by Mr. Childers was the only portion of the Buddhist *piṭakas*, up to this period, actually printed in Europe—the great obstacle to a real knowledge of Pali being the want of an adequate dictionary: this

want Prof. Childers at once set to work to remedy, his first volume being published in 1872, and the work itself finally completed in 1875, scarcely a year before death closed his career of usefulness. In the interval, however, he published his views on *Nirvána*, first in *Trübner's Literary Record* in 1870, and afterwards in the Journal of this Society in May, 1871, under the title of *Notes on the Dhammapada*, completing and summing up the discussion in the long article on Nibbána at the close of vol. i. of his Dictionary. In the autumn of 1872 Prof. Childers was appointed Sub-Librarian at the India Office.

In 1873, Mr. Childers contributed a paper "On Buddhist Metaphysics" to Prof. Cowell's edition of H. T. Colebrooke's Essays, and commenced a series of papers in the Journal of this Society "On the Sinhalese Language." In the same year, he accepted the appointment of Professor of Pali and Buddhist Literature at University College, London, being the first Professor appointed specially for this subject.

In 1874, was published the first part of his edition of the *Mahá-parinibbána Sutta*, that portion of the *Sutta Piṭaka* which gives an account of the last few days of the life of *Gautama Buddha;* and, in 1875, appeared his second paper on *Sinhalese*, in which this language is conclusively proved to be of Sanskritic and not of Dravidian origin.

Early in 1876, soon after the completion of his Dictionary, Prof. Childers issued the second part of the *Mahá-parinibbána Sutta*; having, at the same time, undertaken, with Mr. Fausböll, of Copenhagen, a complete edition of the Buddhist Jataka stories, together with translations from the *Piṭakas*, for Prof. Max Müller's projected series of Translations from the Sacred Literature of the East. He was also working, assiduously, towards the completion of his previously announced Pali Grammar, when rapid consumption, following upon an attack of cold, in the earlier part of the year, carried him off on July 25th, 1876. It should be added, that just before his death,

he received the gratifying intelligence that the French Institute had awarded to him the Volney Prize for 1876.

(5). Dr. *Martin Haug,* one of the most eminent of recent Oriental scholars, was born on January 30, 1827, at Balingen, in Wurtemberg, and died, from the effect of sleeping in a damp cold room, at Raga, on June 5, 1876, having not quite completed his fiftieth year. The child of humble parents, it was long before Dr. Haug's intellectual powers had fair chance, although, at more than one small school in which he was a pupil, the masters had detected the germ of the abilities he subsequently exhibited. He was, in his earliest youth, employed on his father's farm. In 1843, he took the place of a sick master of the school at Balingen, whereby he acquired a further knowledge of the Classical languages, and was, at the same time, able to purchase some books. Somewhat later, in the same year, he became an assistant in another school, with 100 children to teach, and the moderate payment of 120 thalers (about £18) as his annual salary. In 1844, he commenced the study of Sanskrit, but under considerable difficulties, as he could not, for some time, obtain a Sanskrit grammar; he had, therefore, to teach himself the alphabet by the laborious comparison with the original Sanskrit of the proper names he found in Bopp's Latin translation of the Nalas and Damajanti. Still he went on, steadily, having clearly in view the then main object of his life, University distinction. In the end, by the aid of a friend, he obtained the free use of the University Library at Stuttgard, about the same time acquiring from Creuzer's "Symbolik" his first glimpses of the Vedas and of the Zend-Avesta. In 1848, he entered the University of Stuttgard, where he soon took a leading place among the students; going, however, not long after, to Tubingen, where he obtained a sound knowledge of the Classical languages, and obtained the prize for an essay (subsequently published), the subject being the authorities whence Plutarch gathered materials for

his "Lives." Not long after, we find him studying the connexion of the Classical languages of Antiquity with those of the East, and working with the greatest energy at Sanskrit, Zend and modern Persian, under Prof. Rudolph Roth, who had succeeded Prof. Ewald. He suffered, however, at this period, much from privation, as his father could not or would not give him any help; he had, therefore, during the winter of 1849–50, to eke out a precarious existence by the private teaching of Hebrew. In 1851, he took the degree of Doctor in Philosophy, and shortly afterwards attended, at Göttingen, the lectures of Professors K. F. Hermann, Benfey and Ewald. To the last named, indeed, he was especially indebted, for private lessons in Arabic, Persian, Turkish and Armenian. From Göttingen he went to Bonn, where he was warmly welcomed by Lassen, and, while there, gave himself up to the study of Zend, six years' subsequent continuous study serving to place him in the very first rank of Zend and Iranian scholars.

In 1858, Baron Bunsen offered him the post of his private secretary and fellow-worker at Heidelberg, in the "Bibelwerke," and, through his instrumentality, he was enabled to visit Paris, London and Oxford, and, in the summer of the following year, he secured (mainly through the recommendation of his friends in Oxford) the appointment of Professor of Sanskrit and Superintendent of Sanskrit studies at Poona. How laboriously he worked, and what good work he did in the furtherance of Oriental learning during the seven years he remained in India, is well enough known. Shortly after his return to Europe, he accepted the post of Professor of Sanskrit and Comparative Languages at Munich, where his lectures had a great success and were attended by a large number of students. At the second Congress of Orientalists in London, in September, 1874, Prof. Haug occupied a prominent place. Few, who then rejoiced in seeing him again, anticipated the early death which has so suddenly terminated his career of usefulness.

Prof. Haug, during his residence in the East, made good use of the unrivalled opportunities he enjoyed of making a collection of Oriental MSS. connected with those branches of study to which he had paid the chief attention. On his return to Europe he kept these by him, declining to part with them except as a whole. From the Catalogue published since his death it appears that they consist of 34 in Zend, Pehlevi, Pazend and Persian, and 304 in Sanskrit, these latter being almost exclusively Vedic. Among these is a very fine copy of the Brihad-devatá. This noble collection has been now secured for the Royal Library at Munich.

Dr. Haug was a voluminous writer, as the following list, probably by no means an exhaustive one, sufficiently indicates:

Über die Pehlewi-sprache und den Bundehesch. Gött. 1854.

Über Schrift und Sprache der zweiten Keilschrift gattung. Gött. 1855.

Die fünf Gâthâ's, oder Sammlungen von liedern und sprüchen Zarathustra's seiner Jünger und Nachfolger. Leipz. 1858–60.

Essays on the Sacred Language, Writings, and Religion of the Parsees. Bombay, 1862.

The Aitareya Brahmanam of the Rig Veda. 2 vols. Bomb. 1863.

A contribution to the right understanding of the Rig Veda. Bombay, 1863.

Account of a tour in Gujarat. 1863–4.

An old Zand Pahlavi Glossary, edited by Destur Hoshangji Jamaspji, revised, with notes and introduction. Bomb. and Lond. 1867. 2nd ed. of the same, 1870.

Über den gegenwärtigen stand der Zend-Philologie. Stuttgard, 1868.

Brahma und die Brahmanen. München, 1871.

The Book of Arda Viraf. The Pahlavi text prepared by Destur Hoshangji Jamaspji Asa, revised, &c., by M. Haug, assisted by E. W. West. Bombay and Lond. 1872.

Glossary and Index to the same, 1874.

Besides these, Prof. Haug contributed to different periodicals, as the Zeitschrift d. Morg. Gesellschaft, the Göttingen Gel. Anzeigen, the Augsburg Allgemeine Zeitung, and Sitzungsberichte of the Acad. of Munich, a large number of reviews, and miscellaneous papers.

Council.—The Council have to report to the Society that, having recently received from the Secretary of State in Council a request "to permit the volumes of Canarese Inscriptions, collected by Sir Walter Elliot, K.C.S.I., and presented by him to this Society, to be sent to Bombay, for the assistance of the compilers in determining which inscriptions would, on account of their historical or other interest, be worth preserving or re-copying," they felt it their duty to decline this request, on the following grounds :—

1. That the copy presented by Sir Walter Elliot to the Madras Literary Society is now in the hands of M. Oppert, at Madras, who has expressed his willingness to return it, when required.

2. That Sir Walter Elliot's own copy of these Inscriptions was taken out to Bombay, during last autumn (1875), by Mr. Burgess, and entrusted by him to Mr. Fleet, of the Bombay Civil Service, the person, in India, most competent to make a good use of it.

They considered, therefore, that, as there were already two copies in India, available for the purposes alluded to in this letter, it was not advisable to send thither, also, the only remaining copy of such valuable records.

A second letter was, subsequently, sent to the Secretary of State for India in Council, wherein his attention was drawn to the existence of a large number of fac-similes of copper-plate grants—obtained by rubbings or impressions in paper—many of which, being in private hands, it might be difficult to obtain again—and, at the same time, asking him to re-consider the conclusion he had arrived at on a former occasion, and to

sanction the expenditure of a sum, not exceeding £200, for the publication in fac-simile of a selection from the volume of Canarese Inscriptions in the possession of the Society, as, if this were not done, the editing of the rubbings, now in India, would be altogether incomplete. This request was not directly acceded to, but an arrangement was subsequently made with Mr. Burgess, who undertook to publish the whole of them in the Indian Antiquary, in consideration of the Government grant to that publication being continued for two years beyond the time originally agreed upon, and on a slightly extended scale.

At a subsequent meeting, a letter was addressed by the Council to the Secretary of State for India, calling his attention to the proposed new and complete edition of Tabari, which has been undertaken in Germany under the general editorship of Prof. de Goeje of Leiden. In this letter the Council expressed their hope that he would give Prof. de Goeje some assistance in an undertaking, which they considered specially entitled to the recognition of the Government of India. To this request the Council have great pleasure in stating that the Secretary of State for India has assented, by granting the sum of £100 towards this edition of Tabari.

It having come under the knowledge of the Council, that there was a proposition for the erecting a Joint Colonial and Indian Museum on the Thames Embankment, a sub-committee of your Council attended a Meeting at the Cannon Street Hotel, and heard this proposition duly and fully advocated by Dr. Forbes Watson. The conclusion, however, at which your Council arrived, after some correspondence on both sides, was, that it was not expedient, at present, to take any steps towards promoting a subscription for the purchase of the proposed site.

The Council had, also, received information through a letter from the Secretary of the Metropolitan Board of Works, addressed to their President, Sir Edward Colebrooke, that the

Metropolitan Board held themselves unable, under the provisions of the Thames Embankment Land Act of 1873, to relinquish their right to the roadway or terrace garden which is to be maintained between the buildings to be erected on the Crown land and the public garden.

A considerable addition to the number of the Honorary Members of the Society having been suggested, a sub-committee, with Sir Rutherford Alcock, K.C.B., as Chairman, was appointed to consider the whole question. This sub-committee met, and came to the following conclusions:—

1. That the number of Honorary Members should, in future, be limited; and

2. That the whole number of Honorary Members should not exceed thirty.

And, as it was observed that, at the present time, the number of Honorary Members amounted to thirty-one, it became clear that no further addition could now be made to this list.

The Council further determined, that, in future, Members of the Bengal Asiatic Society and of other Branches of this Society, should be admitted as Members, without ballot, on paying an Annual Subscription of Two Guineas.

The following Papers have been read at different General Meetings of the Society during the last year:—

1. On Imperial and other Titles. By Sir Edward Colebrooke, Bart., M.P., President. Read June 19, 1876.

2. On ruins recently excavated by him in Makran. By Major Mockler. Read Nov. 30, 1876.

3. On Inscriptions found in the North-Central Province, and in the Hambantota District of Ceylon. By Dr. Goldschmidt. Read December 11, 1876.

4. On the Northern Frontagers of China; the Kin or Golden Tátárs. By H. H. Howorth, Esq. Read January 15, 1877.

5. On the Early Faith of Aṣoka. By Edward Thomas, F.R.S., Treas. R.A.S. Read February 19, 1877.

6. On weights and measures—from the Treatise of Eliyá, Archbishop of Nisibin. By M. H. Sauvaire. Read March 19, 1877.

7. On some Antiquities found near Damghan. By H. Schindler, Esq. Read March, 19, 1877.

8. On the affinities of the Dialects of the Chepang and Kusundah Tribes of Nipál with those of the Hill Tribes of Arracan. By Capt. C. J. F. Forbes. Read March 19, 1877.

9. On the identity of the "Zodiacal Light" with the phenomenon called the "False Dawn" in Arabic, Persian, and Turkish. By J. W. Redhouse, Esq. Read April 16, 1877.

10. Is the Sultan of Turkey the legitimate Khaliph of the Muhammadans? By N. B. E. Baillie, Esq. Read May 14, 1877.

REPORT OF THE AUDITORS.

Your Auditors have carefully examined the accounts of the Society for the past year, 1876, and find them perfectly correct. As the balance at the bankers is practically the same as when they made their last Report, and as there are no outstanding liabilities, the financial position of the Society remains unaltered. They have, also, formed a careful estimate of the probable receipts and expenditure for the current year, and see no reason for doubting that the income will suffice for all the ordinary expenses of the Society, even after allowing a slight increase in the expenditure on the Journal which they consider most desirable.

ABSTRACT OF RECEIPTS AND EXPENDITURE FOR THE YEAR 1876.

1876.	RECEIPTS.	£	s.	d.	£	s.	d.
	Balance at Bankers', January 1, 1876	214	2	1			
	103 Resident Members	324	9	0			
	40 Non-Resident Members	42	0	0			
	Arrears paid up—						
	Resident	3	3	0			
	Non-Resident	18	18	0			
	Compositions—						
	Resident	31	10	0			
	Non-Resident	19	19	0			
					654	1	1
	Donation from Council for India				210	0	0
	Dividend on Consols, £700				20	15	8
	Rents—						
	British Association (including £8 10s. allowance 3 quarters)				87	15	0
	University Extension Society (including £2 10s. allowance 2 quarters)				15	0	0
	Sale of Transactions				1	4	0
	Total Receipts				988	15	9
	Balance in Treasurer's hands, Jan. 1, 1876	2	9	8	2	9	8
					£991	5	5

May 22, 1877.

Amount of Society's Funds,
Three per cent. Consols, £700.

1876.	EXPENDITURE.	£	s.	d.	£	s.	d.
	House Rent for the Year	300	0	0			
	Water Rate for the Half-year	10	10	0	315	10	0
	Fire Insurance ditto	5	0	0			
	Salaries—Secretary	150	0	0			
	Clerk	60	0	0	235	0	0
	Bedford (pension)	25	0	0			
	Allowances—Royal Asiatic Society	30	0	0			
	British Association (3 quarters) ...	12	15	0	45	5	0
	Univ. Exten. Society (2 quarters) ...	2	10	0			
	Journal—Trübner (Vol. VIII. Part I.)	59	2	8			
	Griggs (1875)	6	0	0			
	Do. (1876)	3	0	0	95	7	2
	Autotype (1875)	25	0	0			
	Adency (1876)	2	4	6			
	Bookbinding (1875)	1	0	6			
	Williams & Norgate (1872-1876)	4	13	6	7	9	0
	Subscriptions—(Rev. Crit. and Palæographical) ...	1	15	0			
	Forrest—(Hire of lamps, &c., July 5, 1876) ...	15	5	0			
	House Expenses—Repairs, Cleaning, &c ...	36	17	3	61	13	6
	,, ,, Groombridge (1875)	9	11	3			
	Stationery—Parkins and Gotto, and printing Cards, etc. (Harrison)	9	7	7			
	Postage and Carriage	13	18	1	23	5	8
	Total Expenditure				783	10	4
	Balance at Bankers', 31st December, 1876	206	13	5	207	15	1
	Ditto in Treasurer's hands, Jan. 1, 1877	1	1	8			
					£991	5	5

Examined and found correct,

NEIL B. E. BAILLIE, E. L. BRANDRETH, } Auditors for the Society.

JAS. FERGUSSON, Auditor for the Council.

Proceedings of Asiatic Soiceties.—Royal Asiatic Society.— The Journal of the Society, Vol. IX. Part I. contains papers by Mr. Thomas, F.R.S., "On Bactrian Coins and Indian Dates"; by Mr. Sayce, on "The Tenses of the Assyrian Verb"; by the late R. Friederich, "An Account of the Island of Bali," continued from the previous volume; by Major Mockler, on "On Ruins in Makrán"; by Mr. Stanley L. Poole, on "Inedited Arabic Coins," Part 3; by Prof. Dowson, "On a Bactrian Pali Inscription and the Samvat Era"; and by Mr. A. H. Schindler, "Notes on Persian Beluchistán, being a Report to the Government of Persia, drawn up by Mirza Mehdy Khán." In his paper Mr. Thomas examines very fully the question of the dates recognizable on some of the Bactrian coins, and shows that the rulers of that country were in the habit of recognizing and of employing curtailed dates, by the omission (at will) of the figures for the hundreds; and further, that this seems to have been an immemorial custom in many parts of India. An Inscription of the ninth century, from Kashmir, shows clearly the provincial use of a cycle of one hundred years, while Dr. Bühler has proved that the same practice is followed even now. In his paper on "The Tenses of the Assyrian Verb," Mr. Sayce points out the value of the knowledge of Assyrian to the Semitic student, in that we have records in it ascending far beyond those of any other Semitic dialect, the conclusion being that, owing to its early development as a literary dialect, Assyrian changed very slightly during a period of fully 2000 years; and, further, that while the syllabic character of the writing has preserved the vowels exactly as they were pronounced, the monuments, themselves, were also inscribed, while the speech of the people was still a living one, and not, as might otherwise have been the case, handed down to us through the doubtful channels of tradition and copyists. Major Mockler, in his paper "On Ruins in Makrán," has given a careful narrative of his examination of ancient dwellings and tombs at two places, respectively,

named Sutkagen Dor and Dambakoh, near Guadar, in Beluchistán. These places are not far from the coast of Makrán, and the first exhibits remains of many ancient works, and, especially, of two dykes of large stones joining adjacent hills with the local name of "Bahmani." Here were found a number of oblong stone inclosures, with a quantity of pottery, charcoal, fish-bones, and flint knives. At the second place, Dambakoh, "the hill of Dambs or cairns," are a great number of little inclosures, eight or nine feet square at the base, and having a single door; pottery, beads, etc., and a Parthian coin were found during the excavations. Major Mockler's paper was accompanied with numerous drawings, from which it has been only possible to select those on the single plate accompanying the impression of his paper in the Journal of the Society.

In a note "On a Bactrian Pali Inscription and the Samvat Era," Prof. Dowson maintains his previous reading of the contested word "Samvatsarasa," and holds that it must be understood as meaning the "Samvatsara" of Vikramaditya, till the contrary is shown. Mr. A. H. Schindler gives some interesting notes (read at one of the General Meetings of last year) "On Persian Beluchistán," drawn up by a native Persian Officer, Mirza Mehdy Khán.

Vol. IX. Part II. contains papers by Mr. Thomas, F.R.S., "On the Early Faith of Aṣoka;" by Mr. H. H. Howorth, "On the Northern Frontagers of China. Part II. The Manchus (Supplementary Notice);" and "On the Kin or Golden Tatars," being a continuation of the series of his papers "On the Northern Frontagers of China;" by M. Sauvaire, on a discovery by the Baron McGuckin De Slane, among the Oriental MSS. of the Bibliothèque Nationale at Paris, of a Treatise on Weights and Measures, by Eliyá, Archbishop of Nisíbín, who died A.D. 1049; by Sir E. T. Colebrooke, "On Imperial and other Titles;" by Capt. C. J. F. Forbes, "On the Affinities of the Dialects of the Chepang and

Kusundah Tribes of Nipál with the Hill Tribes of Arracan;" and by Mr. A. H. Schindler, "On Antiquities found at Tepeh-i Hissar, near Damghan in Persia."

In his paper "On the Early Faith of Aṣoka," Mr. Thomas reviews at some length, and with a full examination of the various authorities connected with this subject, the opinions that have, from time to time, been held by the most eminent Oriental scholars; at the same time, expressing his final judgment, that there had been too great haste in assuming Aṣoka to have been a Buddhist, as he could hardly have been considered an energetic advocate of Buddhism till a comparatively late period of his life. In the course of his argument, Mr. Thomas urged that many distinguished students of Indian Antiquities, as Mr. J. W. Traill, Captain Low, and Dr. Stevenson—nay, even Mr. Brian H. Hodgson, and the late Professor H. H. Wilson—had, practically, admitted, that much usually called Buddhism, was, in real truth, a remnant of the probably earlier system of the Jainas: Mr. Colebrooke, indeed, he thought, had gone even further than this, when he suggested that Buddhism might perhaps be an emanation of Jainism. Mr. Thomas then stated his opinion that the inscribed and still existing edicts of Aṣoka clearly exhibit three distinct phases of belief: (1) When he was a follower of the Jaina system; (2) When his views were becoming modified; and (3) When, towards the close of his life, he had clearly become an out-spoken Buddhist. Mr. Thomas, further, pointed out that, in his judgment, evidence could be adduced for the antiquity of the Jaina faith, even from Brahmanical sources, and quoted the words of the recent traveller, M. Rousselet, with reference to documents still in the possession of the Jainas, and of which he was, personally, cognizant. Mr. Thomas added some curious evidence as to the concurrent state and retarded progress of Brahmanism, from the Numismatic evidence of a race whose rulers governed a considerable portion of Central Asia, from about B.C. 100 to 200 A.D., viz. the

Indo-Scythians. On the gold coins of this people, we find no less than six sets of Gods, in contemporary use, with the additional evidence afforded by their very curious and remarkable types, that, at that period, Brahmanism had not, as yet, emerged from Saivaism.

Mr. Howorth, in his paper, "On the Kin or Golden Tatars," gave a valuable notice of the gradual rise and progress of the Yuchis, and of the circumstances that led to their successful conquest and occupation of Northern China, during the eleventh century A.D., then under the feeble dynasty of the Khitan or Liau Dynasty. Sketches of the lives of many of the Yuchi chiefs were given, with a somewhat more enlarged biography of Aguta, who raised his people from the position of a petty principality in Manchuria, to great importance among the Northern Asiatic powers. Aguta died in A.D. 1123, at the age of fifty-five years, leaving, as the result of his prowess, an empire of short duration, indeed, but having for its capital the present Pekin.

M. Sauvaire, in his account of Archbishop Eliyá's Essay, shows clearly that, though imperfect, it contains much matter of interest to those who pursue Numismatic studies, and that it would be worth while to compare his statements with those of Makrizi.

Capt. *C. J. F. Forbes*, in his paper on the "Affinities of the Dialects of the Chepang and Kusundah Tribes of Nipál with those of the Hill Tribes of Arracan," supported and confirmed the views advanced forty years ago by Mr. B. H. Hodgson.

The sketch of the history of "Imperial and other Titles," which forms the subject of the last paper but two in the forthcoming number of our Journal, arose out of the late discussions in Parliament, on the proposed assumption by Her Majesty of a new title, to be borne in India only.

Much was said at the time of the inappropriateness, or the contrary, of the title of Emperor, as the equivalent of those usually borne by the sovereigns of extensive dominions in

the East, especially in India; and it seemed of interest, independently of the political questions involved in this measure, to trace the history of the titles, which have been current in the East, at different times and in different States, and to compare their political significance with those of Europe. In following out this idea, Sir Edward Colebrooke has traced the History of Imperial titles from the time of the Roman Republic, through the various changes it underwent in the Lower Empire and in modern Europe, and, after this preliminary review, it has been his aim to apply a similar process to the various Royal and other titles, which have been in general use among Eastern dynasties. In this way the titles *Malik*, *Sultan*, *Khan*, *Shah* and *Padshah*, as well as those of *Khalif* and *Amir*, and the Hindu title *Raja* and its compounds, were passed in review, the paper concluding with some remarks on the fluctuating and ephemeral character of such designations, with the view of impressing on the translators of Eastern narratives, the expediency of letting the reader know the exact designation borne by Eastern Princes, at particular epochs, and the significance which attached to them at the time.

Asiatic Societies of India.—Asiatic Society of Bengal.—The Journal of the Asiatic Society of Bengal has published two valuable memoirs. The first, by Capt. C. H. Marsh, being "A Description of a Trip to the Gilgit Valley, a dependency of the Mahárája of Kashmir;" and the second, by R. B. Shaw, Esq., "On the Ghalchah Languages—Wakhi and Sarikoli." In the first, Capt. Marsh gives an interesting account of a journey he made from Sirinagar, the capital of Kashmir, through a district which has been scarcely at all visited, passing through a little known cleft in the mountains 15,000 feet high, and called by the natives "Sheo thur," or "Bone-cutting." This pass, called also "Mazena," is only open in September and October, and is little used.

In the second, Mr. R. B. Shaw gives a valuable contribution to the linguistic knowledge of the tribes to the north and north-west of the Himálayas, the dialects described and discussed being those of the populations who live in the valleys descending, respectively, to the east and the west of the great Pamír plateau.

These dialects, which are all clearly akin one with the other, are classed by their Turki neighbours under the generic name of *Ghalchah*, the majority of the population being Shiah Musulmans, speaking a more or less pure Persian. The Tajiks of the plain, Mr. Shaw adds, speak their own form of Persian, differing, as this does, merely in pronunciation and in a few other peculiarities. In the more secluded valleys are certain other tribes, especially to the south and east of Badakhshan, who are, unquestionably, Aryan by race, and of the Persic branch. It is certain, however, that these dialects are not mere offshoots or corruptions of modern Persian, though there may be plenty of modern Persian words in their usual vocabulary; history, however, tells us nothing either of their arrival in their present seats, or whence they came.

Bombay Branch.—The Bombay Branch of the Royal Asiatic Society has continued its useful labours, and has published many papers equally valuable and interesting. Among these we may specify Dr. Bühler's "Additional Remarks on the Age of the Naishadhya"; Mr. Gerson da Cunha's "Historical and Archæological Sketch of the Island of Angediva"; Rao Saheb Mandlik's transcript and explanation of three Walabhí Copper Plates, with many ingenious and able remarks on them; Mr. Fleet's "Sanskrit and Old Canarese Inscriptions relating to the Yádava Kings of Dévagirí"; Mr. Da Cunha's "Notes on the History and Antiquities of Chaul"; and Dr. Marchesetti's paper "On a Pre-historic Monument on the Western Coast of India."

In the first, Dr. Bühler points out that there is no doubt that Sriharsha, the author of the *Naishadhya Mahá Kávya*, lived at the Court of a King, *Jayantachandra*, who ruled Benares; that this King is really Jayachandra, the last of the Ráhtor princes of Kanoj, who, after ruling at Benares, was dethroned by the Musulmans in 1195 A.D.; that Sriharsha himself states, that he was highly honoured by a King of Kányakubja, or Kánoj; and, further, that Rajasekhara affirms that the first copy of his work was brought to Gujarat about 1235 A.D., by Harihara, during the reign of Ráná Viradhavala. Dr. Bühler then notices the objections which had been urged against his view by Mr. Fitz-Edward Hall and his friend Mr. Telang, together with the support he had received from other scholars.

In Mr. Da Cunha's historical account of Angediva we have an interesting memoir of a place, which, besides its ancient interest, has the more modern one of being the scene of Camoens' "floating Island of Venus," where Vasco da Gama, on his first homeward voyage, re-fitted his ships and supplied them with wood and water; and where, too, Don Francisco d'Almeida built a fortress, the ruins of which are still to be seen. There has been much doubt as to the meaning and derivation of the name Angediva, but Mr. Da Cunha thinks it is probably derived from *Ajádvipa*, the "Island of the Goddess Ajá." It seems, also, probable that it is at or near the *Leuke* of the Greeks, the place, in fact, where their merchant ships used to meet before proceeding along the more fertile shores of *Limerikè* (Canara and Malabar). In a second paper, entitled "Notes on the History and Antiquities of Chaul," Mr. Da Cunha has traced, with equal skill, the remarkable story of this ancient site, on the mainland of North Konkán, about thirty miles south-east of Bombay. It is well known that Chaul was, for some centuries, one of the chief commercial entrepôts of Western India, having been noticed so early as the Periplus, under the name of Simylla (according to Colonel

Yule, the *Chimólo* of Hiouen Tsang), and subsequently by Masudi, Ibn Haukal, Al-Biruni, Zakariya Al-Kazwini, and most of the best known early European travellers from Cosmas Indicopleustes to Varthema, Da Gama, and Niebuhr. No doubt, to ordinary readers, the most interesting portion of the History of Chaul was during the period it was the chief stronghold of the Portuguese; but the details of the deeds of Vasco da Gama, Don Francisco D'Almeida, and of his son Don Lourenço, are already sufficiently well known. Mr. Da Cunha gives a clear and impartial account of them.

Asiatic Society of Japan.—The Transactions of this Society are, perhaps, not unnaturally, restricted almost entirely to matters of immediate interest to those who live in Japan, and are, therefore, of less general interest to the general body of Oriental scholars. There is, however, in them an excellent antiquarian paper by a native Japanese writer, "On some ancient Copper Bells," from which, it appears, curiously enough, that these objects have been invariably dug up, and have never as we might, otherwise, have expected, been handed down in families. There is also a pleasant account of a visit by Mr. R. H. Brunton to "Okinawa Shiha and the Loochoo Islands," with a notice of "The Bonin Islands," by Russell Robertson, Esq., and a "Note of a Trip from Yedo to Kioto," by Prof. D. H. Marshall. Each of these papers will well repay general perusal.

In the *China Review*, vol. v. part ii., Mr. Watters continues his valuable essays on the Chinese language, the present portion of his work being intended to show to how great an extent "suggestive or imitative gestures and other purely facial expressions act for or assist articulate speech among the Chinese." All classes, Mr. Watters states, use such gestures, and not merely the lower ones: he has, however, space to mention only a few of the more remarkable among them.

In vol. v. part iv. for the present year, the article above

alluded to by Mr. Watters is continued, and many other interesting subjects are treated of with skill and knowledge. *Inter alia* there is a curious notice of a "Chinese Horn-book," showing how young people receive their first education in China, and an excellent review of Dr. Eitel's Dictionary of the Cantonese Dialect, which has at present reached from A to K, which proves, satisfactorily, how great have been the advances in Chinese lexicography in recent times, and especially during the last seven years.

In the same part Mr. Dennys concludes his useful series of papers on the "Folk-lore of China," comprehending in this section of his work "Fables and Proverbial Lore," it being, however, a curious fact that Chinese literature hardly possesses any collections of Fables properly so called, though they have a great abundance of isolated tales. The only known collections of fables are translations from Sanskrit and Buddhistic sources, and, therefore, exotic to pure Chinese thought. The fact seems to be that the Government is afraid of stories in which its faults appear to be lashed; hence, the speedy suppression by the Mandarins of a translation of Æsop's fables by Mr. Thorn in 1837-8, though a work, generally, accepted with favour by the populace.

Dr. Bretschneider continues his valuable articles "On the Chinese Intercourse with the Countries of Central and Western Asia in the Fifteenth Century," the details of which, however, it is not possible to follow out here; and the part concludes with a brief but useful notice of the works most recently published bearing on the general history of China, and of the nations more or less connected with her.

Journal Asiatique.—Tome viii. part i. July, 1876, is entirely occupied by a report on the progress of Oriental matters during the years 1875–6, drawn up by M. Renan, the worthy successor, in this respect, of the late Jules Mohl; and a considerable portion, parts ii. and iii., is devoted to

M. Guyard's able and ingenious paper, entitled "Théorie nouvelle de la Metrique Arabe," which has since been published separately. M. Philip Berger contributes a notice "Sur les pierres sacrées appelées en Phénicien Neçib Malac Baal," somewhat differing views about which have been published by Gesenius, Euting, Derembourg, and other Phœnician scholars; and M. Renan gives a photograph and a description of an early Hebrew inscription found by M. Guerin in the village of Alma, in Upper Galilee. M. Huart, in the third part, contributes a paper in which he reviews the later period of the Il-Khanian or Jelairide Dynasty, who reigned in Irak-Arabi between A.H. 737 and 835, and sketches the strange and varied adventures of Prince Ahmed, who, having been dispossessed of his dominions by Timur, fell, subsequently, in battle with the Turkomans of the Black Sheep. M. Clermont Ganneau adds a short notice, in which he points out the falseness of a Phœnician gem in the Imperial Cabinet at Vienna.

Part iv. contains a valuable historical paper by M. Belin on the diplomatic relations between the Republic of Venice and Turkey, commencing from A.D. 1408; one by M. Zotenberg, "Sur les sentences symboliques de Theodore Patriarche d'Antioch," with the Syriac text and translation; a short note by M. Senart, "Sur quelques termes Bouddhiques;" and one by M. C. de Harlez on the meaning of the words "Avesta-Zend."

German Oriental Society.—The Journal of the German Oriental Society contains in the first two numbers of its thirtieth volume many valuable papers bearing upon Asiatic studies, such as (1) a short one on the language of the ancient Medes by M. Oppert; (2) by Hubschmann, on the pronunciation of the ancient Armenian language; (3) by Gardthausen, on the Greek origin of the Armenian alphabet; (4) by J. A. Jäschke, an explanation of Tibetan words and

names in the work published by the Abbé Des Godins entitled, "La Mission de Thibet, 1855–70"; (5) by Hubschmann, on the Irano-Armenian names ending in *Karta, Kart,* and *Gird*; and (6) by H. Jacobi, "On some points of Indian Chronology." There are, also, excellent papers "On the Himyaritic Inscriptions" by Mordtmann and David H. Müller, and on Phœnician inscriptions by Julius Euting.

In the third part there is a notice of the translation of the Vendidad into Gujarati, by C. de Harlez, and of a syllabic dictionary of the Chinese language by Mr. Williams Wells, together with a notice of Japanese Astrology by M. Severini. In the fourth part we find an able and learned paper by Dr. Ernest Haas "On the origin of Indian medicine, especially in connexion with Susruta."

Some of the more important of these papers will be noticed under the subjects to which they more especially refer.

Archæology.—There is comparatively little to record this year under this head, the more so that no official advices have been received from Gen. Cunningham since the appearance of his fifth volume of Reports in 1875. The public have, in consequence, no means of knowing how he has been employed during the last two years, nor what may have been the result of his researches. It is understood, however, that, during the last cold weather, he revisited Sanchi and various localities in that neighbourhood, for the purpose of investigating a large group of temples which were photographed by Lieut. Waterhouse in 1862–65. These he has found so interesting, and so complete, that he proposes to publish a folio volume of photographs of them under the title of the "Gupta Style of Architecture," as he has ascertained from inscriptions on them that the principal examples belong to that dynasty. If we may assume Mr. Fergusson's dates for that dynasty to be correct, these temples would belong to the fifth century of our era, a date fully confirmed by their style of architecture, if the pro-

gressive development of forms and details advocated by that writer can be sustained. The Council also learn with satisfaction that General Cunningham has completed his description of his great discovery of the Bharhut Tope, and that his volume of the Aṣoka inscriptions is nearly ready for publication.

Several Archæological works have been, however, published, of some of which a brief notice must be given here. In the first place, Mr. Burgess has completed the second yearly report of the Archæological Survey and Exploration of Western India, and his work, describing these results, was published by the India Office, towards the close of the last year. It will be remembered that Mr. Burgess's previous researches were chiefly devoted to the Kanarese districts, to the caves of Badami and Aiwulli, and to the Jaina temples of Belgám and Pattadkal; the means placed at his disposal being, however, unfortunately, wholly inadequate to the work expected from him. Still the result of those researches has been the opening out of a new phase of the architectural history of India from the sixth to the eighth or ninth century A.D. His present volume is chiefly devoted to "Ahmadabad and the antiquities of Kathiawaḍ and Kachh (Cutch)," but contains, also, a mass of miscellaneous matter collected, more or less, during his Archæological Survey of Western India, between Oct. 1874 and April 1875. Mr. Burgess is, thus, able to include the description of many caves in the neighbourhood of Junagaḍh, at Sana, Dhank, Siddhsar, etc., and to give, also, the inscriptions from the gate of the Jaina temple at Girnar, with some notices of the five temples at Ghumti and at Jhinjuwada in Gujarat. The most important portion of the volume is devoted to a new and very complete description of the fourteen Edicts of Aṣoka, on the rock near Junagaḍh, which seem to have been first noticed by Major Tod in 1822, deciphered partially by J. Prinsep in 1837, and far more carefully copied by M. Westergaard and Captain, now Lieut.-Gen. Sir G. Le

Grand Jacob in 1842. Mr. Burgess has, at length, succeeded in making perfect facsimiles of these edicts by means of paper impressions, the originals of which are now deposited in the India Office Library, and available, therefore, for scientific study and comparison. Mr. Burgess commences his new volume with a valuable monograph by Mr. Thomas "On the Sáh Dynasty," including, as this does, a notice of the coins of the Guptas, some ingenious speculations as to the influence of the Greek language in India, a notice of some curious Indo-Parthian coins preserved at St. Petersburg, together with others of the Arabs in Sind. Besides the Aṣoka Inscriptions, Mr. Burgess gives copies from photographs of a Sáh Inscription, and of one of a Skanda Gupta, who is believed to have reigned between A.D. 450-470, both of which are inscribed on the same rock with those of Aṣoka. This second volume of the Archæological Survey of Western India is admirably got up, as regards the printing, the photographs, and the copies of the impressed paper inscriptions; the map, however, of Kathiawaḍ, Kachh, etc., is scarcely worthy of the volume to which it is attached.

During the following season, 1875-6, Mr. Burgess visited the caves of *Dara Seo*, or *Sinha*, in the Nizam's territory, and explored several sites in their neighbourhood hitherto undescribed. He also visited and made drawings of the caves in the neighbourhood of Aurungabad, which are of great interest, but, hitherto, little known to the antiquarian world. The results of these explorations are embodied in a report now in the press, which, it is expected, will shortly be published. Mr. Burgess also visited and measured the caves at Junír and others in the neighbourhood of Bombay, an account of which will be embodied in this Report.

During the past year, 1876-7, Mr. Burgess has been principally employed in a thorough examination of the caves of Ellora, which were cleared out, at considerable expense, by

order of Sir Salar Jung, in expectation of the Prince of Wales' visit to them. He has also superintended the re-examination of those at Ajunta by Mr. Griffiths.

If Mr. Burgess's plan of operations be successfully carried out, he will, personally, have visited and explored nearly all the caves of the Western side of India, at the same time obtaining plans and details of all the most interesting examples. Under these circumstances, an application has been made to the India Office to allow him to remain in England during next cold weather, in order that he may pass through the press a work on the Rock-cut Temples of Western India, which he undertook to prepare, in conjunction with Mr. Fergusson, before his appointment as Archæological Surveyor of Western India. As this project received the approval and sanction of Her Majesty's Secretary of State for India in 1871, it is probable the leave asked for will be granted. As, moreover, all the materials requisite for its completion have now been collected, it appears to the Council desirable that it should be published with as little delay as is compatible with its proper execution.

In Ceylon satisfactory work continues to be done, and Dr. Goldschmidt's "Report on the Inscriptions found by him in the North Central Province, and in the Hambantota District" gives hope that his antiquarian exertions may lead to the recovery of many monuments of even greater value than those he has as yet described. What he has met with up to the present time may be conveniently divided, as in the Report, into—

1. Inscriptions of the earliest period "from the introduction of Buddhism to the beginning of the Christian era," consisting as these do, generally, when not merely indicative of the ownership of the cave, of brief dedications to the priesthood. These are written in the Southern Alphabet of the Indian king Dharmáçoka, with slight modifications, and, occasionally, in more recent forms not greatly differing from those of King

Gangabáhu's time (second century A.D.). The proper names of the donors or proprietors are often interesting, and there are a few ancient words, as *parumaka* or *barumaka* (Brahman), *jeta* (daughter), and some others, which will be interesting to students of the Sinhalese language. There are also some important and unexpected grammatical forms.

2. "From the beginning of the Christian era to the fourth century A.D." In this period are many inscriptions of King Gajabáhu Gámaní (A.D. 113-125). One on the Habaranè Rock records the construction of a vast tank of more than 16,000 acres, and its being handed over to the priests of Buddha for preservation; two others mention the construction of Chaityas, with various grants to the priesthood, the district of Hambantota, in the Southern province of the island, being rich in such dedications. There is also an inscription on a rock at Kirindé, showing a transitional state of the language, as it contains many Pali words, in a form, too, which throws some doubt on the alleged antiquity of the Pali language, at least, in its present form.

3. "From the fifth to the eleventh century A.D." Of this period, probably between the ninth and eleventh century, Dr. Goldschmidt notices one inscription that has proved of considerable value to him, in that it fixes the dates of many others. The donor is the son of a King Abhá Salamewan, of whom inscriptions also exist. As the language of these inscriptions, though not devoid of adopted Sanskrit and Pali words, is still in a Sinhalese shape—and as, soon afterwards, Sanskrit words are found abundantly in the speech of Ceylon, it may be presumed that the modern mixed speech came into existence in the eleventh and twelfth centuries A.D. Sinhalese literature must also have commenced about the same period, as its language carries with it the spoils of many foregoing centuries.

4. "Inscriptions at Polonaruwa, Mineri, Dambulla." Polonaruwa, having become the capital of Ceylon on the decay of

Anurádhapura, has few inscriptions of antiquity; indeed its most extensive ruins belong to the reigns of Parákramabáhu the Great, and of Nissanka Malla: of the first, one inscription only has been met with, but this is a very long one. On the other hand, Nissanka's inscriptions, giving minute details of his life, abound. One piece of evidence may be drawn from these inscriptions, that the Princes of Kalinga (from whom the people of Ceylon are often admonished to select their kings) were Buddhists, and, therefore, that so late as the close of the twelfth century there was a Buddhistic dynasty reigning in the South of India. In conclusion, Dr. Goldschmidt states that, as yet, the jungle covering the ancient streets of Polonaruwa has been only partially cleared away; and, therefore, that there is reason to expect that many more inscriptions, though probably of a somewhat modern period, will be discovered. We regret extremely to hear that Dr. Goldschmidt died, a few weeks since, before having brought to a conclusion his valuable researches.

The Society has recently received from the Secretary of State for India the late Mr. J. W. Breeks' "Account of the Primitive Tribes and Monuments of the Nílagiris," a work of the highest interest and value to the student of Ethnology, and, especially, of the descendants of early races who were, probably, in the same parts of Southern India, where they are still found, before the advent of the Aryans. Nor will the archæologist fail to recognize the importance of the illustrations of the ancient cairns, cromlechs, and miscellaneous antiquities recorded in this book, together with the remarkable reliefs discovered at Sholúr, Melur, Achenna and other places. The volume is illustrated by eighty-three photographs. Two more volumes have also been added, to the six previously in the Library of the Society, of "The People of India," edited by Dr. Forbes Watson and the late Sir John W. Kaye. The first of these (vol. vii.) treats of the districts of Rajpootana, Central India, and Berar, respectively, and is illustrated by sixty-five

photographs; second (vol. viii.), of Mysore, Coorg, the Nílagiris, Madras, Travancore, the Malay Peninsula, Burma, and Arracan. This volume is illustrated by sixty-three photographs.

Indian Antiquary.—In the "Indian Antiquary" a few papers have been given bearing on recent researches among the caves and sculptured monuments of India, a brief notice of which may be given here. Thus Sir Walter Elliot contributes a paper "On some remains of Antiquity at Hánagal in the Southern Maráthá country," with a plate showing the position of some ancient lines of earthwork surrounding an old fortification, the central structure being from seven hundred to eight hundred yards in diameter, while the circuit of the whole area connected with these works, is not less than four miles and a half. It has not as yet been possible to identify these works with any known ancient site; but its position, on the frontier between the Chálukya and Chéra kingdoms, shows that it must have been a military post of value, when these two powerful states were in the ascendant. Sir Walter Elliot is, however, inclined to think that it may have been only the location of a pre-historic pastoral tribe, who made it their principal station, requiring, as they would, a large adjacent area for the protection of their cattle.

To that indefatigable antiquary, Mr. M. J. Walhouse, we are indebted for two papers entitled "Archæological Notes," in the first of which he gives a curious account of the *provenance* of the beryl (or *Aqua Marina*), which has been chiefly procured at a village called Padiar (or Pattiáli) near Koimbatúr, on the edge of the Nílagiris. Mr. Walhouse adds a description of many remarkable gems in *Aqua Marina*, still preserved in European cabinets. In his second paper, Mr. Walhouse notices several "curious tombs and entombments," and discusses the question of the dates of the circles called by the Tudas "Azarams," illustrating his views by an account of

the recent funeral of the (Syrian) Metropolitan of Malabar, in 1874, when many traditionally ancient customs were observed. Mr. Walhouse adds some remarks on "dolmens and extinct races" (with a plate), in which he points out the remarkable connexion between the terra-cotta tombs found by Mr. Garstin in South Arkot, and those of Babylonia and Etruria. Mr. Walhouse has, also, exhibited before the Anthropological Institute a curious collection of iron arrow-heads from Southern India, many of the larger and broader of which are still used by the Jungle Tribes in the Nílagiri Hills and Western Ghâts. Their bows are of bamboo, with cords of rattan. Though small and meagre men, the force with which the arrows strike would satisfy one of Robin Hood's men, the shafts going almost through the bodies of the animals. The same remarkable power is well indicated on many of the Assyrian sculptures.

Mr. G. H. Johns notices "Some little known Bauddha Excavations in the Puṇá Collectorate," the most important being at a place called Bhánchandra; and Mr. Garstin gives an interesting note on the Dolmens, near Tirakovilar, on the east bank of the Punniar: these resemble those found by Captain Cole in Coorg and Mysore.

Mr. W. F. Sinclair gives a report "On some Caves in the Karjat Taluka of the Thána Collectorate," which have been long known, and partially noticed by Dr. Wilson in his "Remains of Western India," but, only, superficially. Mr. Sinclair gives reasons for supposing that these caves are of remote antiquity, much older, anyhow, than those at Salsette. They are situate at the northern end of the Bhor Ghát Ravine. The façade of one of the caves resembles that at Kárli. Lastly, Mr. Burgess contributes an important memoir "On the Buddhist Caves of Junnar," remarkable, as these are, for the absence of figure ornamentation, so invariable at Ajunta, Ellora, Kárli, and other places. Some of these caves are now occupied by Brahmans, who worship, as a Saiva

Goddess, the mutilated images of Buddha. Mr. Burgess's memoir is much increased in value by the addition of the translations, by Professor Kern of Leiden, of the Inscriptions found at Junnar. Dr. Kern considers them to be from 200 to 300 years later than those of Aṣoka, though the character in which they are written is quite the same.

Dr. (now Bishop) Caldwell adds some very interesting remarks on "Explorations" conducted by him "at Korkei and Kayal"—the former of which names he thinks may be identified with the *Κόλχοι* of the Greeks, in those days the chief emporium of the Pearl Trade, and, according to native tradition, the cradle of South Indian civilization. Kayal he thinks, with Colonel Yule, is, most likely, the Cael of Marco Polo.

Besides the papers already alluded to, as bearing more directly upon antiquarian research, a considerable number of valuable memoirs have been published during the last year, in the pages of the *Indian Antiquary*. Thus Mr. Beal has given us a Buddhist Jataka from the Chinese: Mr. Rehatsek a paper "On the Twelve Imáms:" Mr. McCrindle some useful and valuable notes to Arrian's Indica, which, as stated in the Report of last year, he has recently translated; together with fragments of the "Indika" of Megasthenes, preserved in quotations from it by Diodorus, Arrian, Strabo, Ælian, Pliny, and others: Mr. Kearns a curious paper on Right-hand and Left-hand Castes: Major Watson a very interesting historical sketch of the principal Charada settlements in Gujarat. The papers more especially relating to languages, or inscriptions, have, as a rule, been referred to, under their several heads.

The Statistical Survey of India has proceeded rapidly during the past year. This work comprises, as the Society is already aware, a complete examination of each British district or native state of India, and thus extends over an area nearly equal to that of all Europe, except Russia, with a population, too,

exceeding that of Europe, less Russia, by about ten million of souls.

After a series of unsuccessful efforts, the Indian Government, in 1869, requested Dr. W. W. Hunter to draw up a scheme for the execution of this work. In 1871 the Statistical Department of India was created with a special view to this survey, and Dr. Hunter was appointed Director-General of the whole of the necessary operations. During the last six years the 233 British districts of India have been surveyed, and materials have been now obtained for the statistical account of each of them. Of these surveys about three-fourths are in print, making seventy volumes of 23,000 pages.

The account of the largest Province, Bengal, representing one-third of the whole population of British India, has been completed. This province, together with Assam, was retained by Dr. Hunter in his own hands; the other ten provinces or governorships being allotted by him to provincial compilers working under his superintendence. The first five volumes of this branch were issued last year, and some months since, Government issued its final orders for the completion of the whole in twenty volumes. The remaining fifteen volumes have not, however, as yet, been issued, owing to the unavoidable delays caused in the preparation of the vast number of maps. An idea of the magnitude of the operations may be formed from the letter of thanks, etc., recently forwarded to the Director-General from the Lieutenant-Governor of Bengal, and which has been published in his Official Gazette. From these documents we gather, that the statistical account of Bengal alone deals with a population of sixty-two millions and three-quarters, "comprising races more varied in character and more numerous than the populations of England, Scotland, Ireland, Norway, Holland, Greece, Turkey in Europe, Roumania, Servia, and all the non-Indian colonies and dependencies of the British Crown put together."

The collection of local materials, and the perambulation of the Bengal districts by Dr. Hunter, occupied five years; the compilation and the printing of the work about two years and a half more. The finished work, in twenty volumes, contains from 7000 to 8000 pages of close type; and every proof-sheet, after having been revised by Dr. Hunter, has been sent out to Bengal, and revised again, first by the Government in Calcutta, and secondly in the particular district to which the individual sheet referred. The delay, however, incurred by this somewhat tedious process has been counteracted by the command of an enormous amount of type. Five of the largest printing firms in Great Britain were simultaneously employed, and the Government Gazette states that the matter kept standing in type for the work, at times, exceeded 3500 pages. "The account of Bengal," says the official report, "furnishes a complete hand-book for the administration of each district or province under that Government." It has, also, been rendered, so far as the opportunities permitted, "a great national record such as modern inquirers might have wished the English Domesday to have been, or such as the Oriental student would fain have found in the *Ain-i-Akbari*."

Under recently issued orders from the Indian Government, Dr. Hunter, having finished the account of Bengal, is now pressing forward the similar works for the other parts of India. The whole will make about one hundred volumes, and these are to be condensed by the Director-General into five, alphabetically arranged for popular use, under the name of the "Imperial Gazetteer of India." This work will be issued under the revision and by the authority of the Government, and its completion may be expected in four years.

General Progress of Oriental Studies—Aryan Languages of India—Sanskrit.—In the field of Sanskrit studies, the unremitting zeal of scholars has manifested itself by labours in various branches, the more important being those on Vedic

and grammatical literature, on inscriptions, and archæological matters. The Rig-Veda continues to be carefully studied, and its difficulties have been further elucidated by the two contemporaneous translations of it by Profs. Grassmann and Ludwig (alluded to in our last Report), the latter of which is now completely finished. The Rev. K. M. Banerjea, to whom we owe so many valuable researches into the different phases of Hindu religious thought, has continued his labours in the Vedic field; and an interesting work has been commenced at Bombay by an anonymous scholar, and has made some progress, viz. "An Attempt to Interpret the Vedas," with a commentary in Marathi.

The literature of the Sámaveda has received a most exhaustive treatment in Dr. Burnell's Preface to his edition of the *Á'rsheya Bráhmaṇa*, in which he has thoroughly sifted the chaff from the wheat, and, thereby, saved much dreary labour to those who would feel encouraged to work in the same direction, after him. The *Á'raṇyasaṃhitá* of the same *Veda* has been published with a Russian translation by Fortunatoff, at Moscow. Even the White *Yajurveda* has been republished with a Hindi commentary by a landholder and proprietor of a lithographic press at Fort Biswan, ambitious of literary fame, but his edition does not, of course, possess any scholarly value. Professor Delbrück has given, as the result of his linguistic studies in this direction, his "Alt-Indische Tempus-Lehre."

Our knowledge of the history of Sanskrit grammarians has been greatly enlarged by the important work of Dr. Kielhorn's edition of "*Kátyáyana* and *Patanjali* in their relation to each other and to *Páṇini;*" a work which might be usefully studied in connexion with Mr. Burnell's "Aindra School of Sanskrit Grammarians."

The activity displayed in the deciphering of ancient inscriptions, as shown by the admirable papers published in the "Indian Antiquary" by Messrs. Fleet, Bühler, Kern, Kittel,

Nilkantha, and others, bears testimony to the recognized importance of such records for the establishment of a solid historical basis in the place of a confused chaos of chronological guesswork. The advance made in this and in similar matters of archæology, as shown by the many able papers published in the Journals of the Asiatic Societies of Bengal and Bombay, and in Dr. P. Goldschmidt's Report from Ceylon, to some of which allusion has already been made, is already considerable, and will, by-and-by, form a most essential help in the reconstruction of our knowledge of Indian antiquities.

The subject of Law and Customs has had its share of attention in the publications of Professors Stenzler of Breslau, and Jolly of Wurtzburg; the first of whom has published the text of the *Gautama-dharmaṣástra*, and of *Páraskara's Gṛihyasútra*; the second, a translation of the *Náradiya Dharmaṣástra* (to be followed by the original text), and a paper on the legal *status* of women gathered from the old Indian lawbooks.

The search for MSS. instituted by the Indian Government has brought us further continuations of *Rájendralála Mitra's* valuable notices, of Dr. Bühler's reports, with additional lists of MSS. existing in various parts of India.

A very intricate subject, which seems to have almost dropped out of notice, since Sir William Jones's days, has lately received renewed attention from several English-writing Hindus—viz. the "Theory of Music." It may, however, well be doubted whether, in spite of their laudable desire to clear up this obscure matter, they have been able to make their views intelligible to European musicians. The essential differences existing between the Eastern and the Western theories render it almost hopeless that any intimate connexion should be established between them. In this attempt, *Sourindro Mohun Tagore* and *Loke Nath Gose* have taken a prominent part. Besides these, a large number of other works or papers bearing on Sanskrit or kindred subjects have recently ap-

peared, some of which must be noticed here. The Rev. F. Foulkes has recently published at Madras a curious volume, translated from the Sanskrit, entitled "The legends of the shrine of *Hari-Hara*," one of the numerous Hindu writings of the *Mahat-mya*, or Temple-legend class. The spirit of the teaching conveyed in it is, that the Deity assumed the form of the God *Hari-Hara* to prove to mankind that the supposed difference between *Shiva* and *Vishnu* is deceptive and unreal. "I worship Thee," says one of the Hymns, "far away in the sky; who, in the form of Brahma, art the Creator; in the form of Vishnu, art the Preserver; in the form of Rudra, art the Destroyer."

To Mr. F. S. Growse, we owe an edition of the *Ramayana* of *Tulsi Dás*, the especial value of which is, that it represents what is still the most trustworthy guide to the popular and living faith of the Hindi race. Though the colloquial idiom of *Tulsi Dás* is not comparable with the classical Sanskrit of *Válmiki*, it is useful as bridging over the chasm between the modern style and the mediæval. Three different editions of the *Sakuntala* have appeared during the last year; thus Prof. Monier Williams has given us a second edition, marked with the same learning and good sense as was his first; Prof. Pischel has published its Bengali recension; and Prof. L. Fritze, a metrical version, which has received just commendation. Prof. Benfey has given a short paper "On Rig-Veda, x. 10, 7; Ath. xviii. 1, 8," in Bezzenburger's Beiträge z. Kunde d. Indo-Germ. Sprache; Prof. Pischel has also published *Hemachandra's Grammatik der Prakrit Sprache*. Mr. Avery, of Iowa, contributes, also, to the history of the Verb-inflexion in Sanskrit;—M. Regnaud, Le Chariot de Terre Cuite attribué au Roi *Sudraka*;—Prof. Aufrecht, *Die Hymnen des Rig Veda* (vol. i. *Mandala* i.-vi.);—M. Grimblot, *Sept Suttas Pális tirés du Digha Nikáya et Paritta*;—M. Hillebrandt, *Ueber die Göttin Aditi*, an excellent Vedic study;—*Ram Das Sen*, a second volume of

the *Aitihásika Rahasya* (or Historical Essays), which would be useful in an English translation; F. A. Grube, *Suparṇádhyáyah* (the Fable of *Suparna*), part of which has already been published in Weber's *Indische Studien*; Prof. Weber, the second edition of his *Akademische Vorlesungen über Indische Literatur-Geschichte*, a most valuable work, in which he has incorporated all the most important new matter relating to the Vedas, etc., which has been brought to light, since, twenty-three years ago, he first published this book. He has, also, given in the Monatsb. der Berl. Acad., a curious paper, entitled "Ein synonymisches Sanskrit Glossar aus dem Nachlass des Demetrius Galanos," and proposes to publish a third volume of his "Indische Streifen."

More than forty years ago Mr. Brian Hodgson presented to this Society, and to the Société Asiatique at Paris, a large number of Sanskrit and Tibetan MSS., which he had collected in Tibet, and which were catalogued by Professors Cowell and Eggeling a short time since. We rejoice to learn that the University of Cambridge has recently acquired a still more valuable collection of similar MSS., illustrative of the history and doctrines of Northern Buddhism. This collection, the especial feature of which is the high antiquity of many of the individual MSS., has been made by Dr. Daniel Wright, the brother of the well-known Professor of Arabic, Dr. W. Wright, who lived for some years in Nipál as the medical officer attached to the Residency. All the older MSS. are on palm-leaves, and many of them are dated in the Nipálese era or Samvat, which commences A.D. 880. The three chief treasures of the collection are two copies of the *Ashtasáhasriká*, dated, respectively, in the 3rd and 5th years of the Nipálese era, A.D. 883 and 885; and a copy of the *Kásya Kánḍa-Kramávali*, dated in the 10th year, or A.D. 890. Besides these, there is another copy of the *Ashtasáhasriká* dated A.D. 1008, and, from this date forwards, there is a continuous series of MSS., illustrating the

writing of each successive century down to the present time. These MSS. will be of the highest value for future editors or translators of the Northern Buddhist texts. The Tantra literature is especially well represented; and, among other names, we may mention the *Á'rya-Manjuśri-mala-tantra*, the historical importance of which has been fully pointed out by Burnouf. One of the greatest treasures of the collection is a fine copy, dated A.D. 1551, of *Yaśomitra's* commentary on *Vasubandhu's Abhidharma-kósa*. There is a MS. of it at Paris as well as in Calcutta, but both are far too incorrect to serve as the basis of an edition. Dr. Wright has himself given a rough list of all the MSS. in his work just published, at the Cambridge University Press, "History of Nipál, translated from the *Parbatiya* by *Munshi Shew Shunker Singh* and *Pandit Shri Gunanand*."

Dr. E. Müller has also published *Beitrage zur Grammatik des Jaina-Prákrit* — a work containing an able comparison between the Jain *Prákrit* on the one hand, and the Sanskrit and the other *Prákrits*, especially Páli, on the other. Of miscellaneous papers, of value and interest, may be mentioned (in the Indian Antiquary), Mr. J. F. Kearns's translation of the *Á'tma-Bódha Prakásiká*; — Prof. Kielhorn's "Remarks on the *Sikshás*"; — Indraji's "Indian Numerals"; — Dr. J. Muir's "Maxims from the *Mahabharata*"; — and Mr. Telang's *Sankara Vijaya*; and Rajendralala Mitra has commenced the publication, in the Bibliotheca Indica, of the Á'itareya Araṇyaka and of the Vidyá-búshaṇa. — In the *Bibliotheca Indica*, also, are many further continuations to works in progress, and the commencement of Váchaspati Miśra's Bhámatí, a gloss to Bráhmasútras. The "Pandit," now in an 8vo. form, prints the Sarva-darśana-saṃgraha, the Pratyabhijná Darśana, the Súlva Sútra of Baudháyana, with stories, aphorisms, etc., illustrative of the Sánkhya Doctrine. — The Baillie Collection of MSS., amounting to 125 vols., has been catalogued, including a copy of the Mahá-

bhárata, on a roll, 228 ft. long, and 5½ in. broad.—In Italy, M. Angelo de Gubernatis has done good work, by instituting an examination into the various stores of Indian MSS. in the Borgian and Florence Libraries, in those of the King of Italy at Turin and Rome, and by an able paper from his own pen, entitled "Materiaux pour servir à l'histoire des Etudes Orientales en Italie."—In *Pali*, Mr. Fausböll has published a Grammar in Sinhalese; and M. Feer, Etude sur les Jatakas; in *Hindi*, Mr. Kellogg has issued a valuable Grammar; M. M. Bhatt, the Mahábhárata translated from the Sanskrit into Hindi; and Mr. Bate, a new and enlarged form of Thompson's Dictionary; and, in *Hindustani*, M. de Tassy has given his annual and comprehensive report. Mr. Fallon's Dictionary has reached its seventh part.

Afghanistan and W. India.—To Major Mockler we are indebted for a grammar of the Baluchi language, of much interest to the philologist as showing clearly that this dialect is an offshoot of the great Aryan family of languages, and most likely derived from the old Persian.—The Rev. Mr. Hughes has published the Khalid-i-Afghání, and Mr. T. C. Plowden a translation of the same work, as the text-book for examination in Pushto.—Prof. Trumpp has also issued a translation of the Adi Granth.

Non-Aryan Languages of India.—Mr. Burnell has printed at Tranquebar, the exact text of the famous Tamil Grammar by Father Beschi; and Mr. Kearns a translation of the Silpa Sástra. Dr. Bower has also recently published at Madras, in a short and convenient form, the "Nannul" of Pavananti, *the* Tamil Grammar, as the Kural of Tiruvalluvar is *the* Tamil Classic. A Canarese and English School Dictionary has also been published anonymously. To the pages of the *Indian Antiquary* Dr. Pope has contributed two papers "On the South Indian and Dravidian Languages," in the first of

which he maintains, contrary to the more usually accepted views, that there are deeply seated radical affinities between the Aryan and Dravidian; that the differences are not so great as between the Celtic and the Sanskrit; and, therefore, that the Dravidian tongues ought to be classed with the Aryan. He even thinks, and has, to some extent, demonstrated, the existence of a law of the interchange of consonants bearing some analogy to that proposed by Grimm for the Indo-European languages. In his second paper he remarks that words, undoubtedly of Sanskrit origin, are often so changed in the Dravidian languages by the operation of well-known phonetic laws as to be hardly recognizable again: thus the equivalents of the Sanskrit *sarpa* (serpens—ἑρπετόν) in Tamil, are, *charppam*, *charubam*, *aravam*, *aravu*, *ará*, *ara*, and *ari*. Many Dravidian words are supposed by the native grammarians to be of Sanskrit origin; they are, however, probably older.

Further Indian and Malayo-Polynesian.—Occasional but scanty notices have appeared in the Reports of this Society of some of the works published by Dutch scholars, in illustration or description of the languages spoken in their colonial possessions; but these have hitherto been altogether inadequate to the importance of the subject they professed to treat of, and did but scant justice to the industry and learning of the Orientalists of Holland, who, in their comparatively limited field of research, have to deal with no less than ten distinct languages, with large numbers, also, of local dialects, which, scarcely deserving the name of languages, are intelligible within certain narrow limits. The two leading languages are the Malay, the *lingua franca* everywhere, and the Javanese, with a host of subordinate dialects, such as Madurese, Balinese, and Sundanese, the Bugi and Macassar of the Island of Celebes, and the Battah, Lampong, and Rejang of Sumatra, with no less than six distinct written characters. All these

are living languages; but, in addition to them, the Kawi or old Javanese must not be forgotten, with its abundant literature.

In 1875, a general Catalogue was published at Leiden, including all the books issued by Dutch scholars from the beginning of the present century to 1874, and a noble memorial it is of good work done, little as it may be known or appreciated beyond Dutch circles. The names of Van der Tuuk, Kern, Matthes, Hardenson, Van Eck, Vreede, Cohen-Stuart, Pijnappel, and Niemann, some of them Protestant Missionaries, and others, Professors in the Universities of Leiden or Utrecht, are sufficient evidence of the work to which they have applied their minds; though, possibly, owing to the Dutch language being but little studied, except for commercial purposes, the real learning to be found in their works has been in some degree overshadowed by the more popular, or more generally intelligible, researches of German and French scholars. Since 1874, we have to record the publication of a Balinese Dictionary and Grammar by Van Eck; a study of the five local dialects of Amboyna in the Moluccas, by Van Hoevel, junior; the second part of the Handbook of Madura, by Vreede; a Malay Dictionary by the late M. Van der Wall—to be continued by Van der Tuuk; a vocabulary of the Malay Languages of the Moluccas, by Le Clercq; and the Volklore of Celebes by Matthes. To the Abbé Favre we also owe a Grammaire de la langue Malaise, published at Vienna in 1876.

M. Van der Lilt, Professor of Law at Leiden, has published a work on the Administration of British India, and another on the Eastern Colonies of Holland. M. Vett, Professor of History in the same University, has continued his great work on Java; while, to the Bible Society of Amsterdam, to the two Missionary Societies of Rotterdam and Utrecht, to the Royal Society of Batavia and to the Asiatic Society of the Hague, we are indebted for the active

encouragement of the above researches. Professorial chairs for the chief Oriental languages have been established at the State Universities, and provision has been made for testing the qualifications of the members of the Civil Service. In the pages of the Transactions and Journal of the Royal Society of Batavia, and in the Journal of the Royal Asiatic Society of the Hague, are the following important papers :—

Van Eck, R.—Bagoes Hoemlarâ of Mantoi Koripan, Balineesch Gedict, Bali and Dutch. Bat. Taal. xi. 1.

———— Tekst en Verlating van de Megar-takâ Balineesch, Gagoeritan. Deel xxiii.

Miklucho-Maclay, N. V.—Sprach-rudimente der Orang-Utan von Johore. Deel xxiii.

———— Verzeichniss einige worte d. Dial. der Papuas der Küste Papua, Kowiay, in New Guinea. Deel xxiii.

Limburg-Brouwer, J. J. van.—Tjareta Brakai proeve van Madoeresche Spelling. Deel xxiii.

Grasshuis, G. J.—List of words in Sundanese and Dutch, by S. Coolsma. Deel xxiii.

Wilken, G. A.—Bijdrage tot de kennis der Alfoeren van het Eiland Boeroe, Tidschr. voor Ind. Taal.

Le Clercq, F. S., has published separately "Het Maleisch d. Molukken," containing words from Manado, Ternate, Ambon, Bonda, Timor and Koepang. Batav., 4to., 1876; as has also M. van der Tuuk, his "Maleisch Leesboek." Gravenhage. In connexion with this branch of the subject we may mention a work by M. Bronson, a Dictionary in Assamese and English, 8vo.; and A. M. H., A "Grammaire Birmane," traduit de l'Anglais.

Mr. Burnell has given an interesting account of "Literary work in Java" in the Academy of Sept. 2, 1876; and Colonel Yule has written an able article on Cambodia in the Encyclop. Britann. ix. ed. vol. iv. M. Philastre has received the Stanislas-Julien Prize for his learned work, entitled Le Code Annamite.

It has been announced that that well-known Japanese scholar, the Count de Montblanc, is about to publish three works of considerable linguistic interest—a "Grammaire nouvelle de la langue Tagala;" "Analogie de la langue Visaya;" and "Liaison intime des idiomes Philippins antiques."

In the neighbouring kingdom of Belgium, Prof. Néve, of the University of Louvain, a Corresponding Member of this Society, represents in his own person, the Oriental knowledge of the country. Count Goblet d'Alviella, of the staff of the *Independance Belge*, who accompanied H.R.H. the Prince of Wales to India, and made good use of his time, has since published a work on the Administrative system of British India.

The occupation of Cochin-China by the French has let light into very dark places. Thus Aubaret has published an excellent Grammar of the Annamite Language, and the veil is gradually being lifted which shrouded the ancient Cambodian tongue, and obscured our knowledge of the modern dialect of the people of that district. With this view, M. Aymonier has published in Paris a Dictionary of French and Cambodian and other elementary works, and we may look forward to the publication of a Grammar, and to the translation of the hitherto undeciphered inscriptions in the old temples of Angeour. Some insight into the language of the Indigenous Malayan Hill Races in the Island of Formosa has been supplied by Mr. Tainter, in the Journal of the North China Branch of the R.A.S., and by the Abbé Favre in the *Bulletin Geographique* of Paris. In connexion with these may be noted J. L. van Hasselt's Hollandsch Noefoorsche woordenboek (Utrecht, 1876), and Beknopte Spraak-kunst der Noefoorsche Taal; Mr. Cushing's Grammar of the Shân Language; and M. L. de Backer's L'Extrême Orient au Moyen Age (Paris, 1877). In the Revue de Philologie, conducted by M. Ujfalvy, in Paris, is a Memoir by M. Castelnau on the

Mantias, one of the savage Negrito races in the interior of the Peninsula of Malacca.

Chinese.—In China, the last year has been fruitful in the production of many valuable works, among which we may specify—

A Catalogue of Chinese Priuted Books, MSS., and Drawings in the Library of the British Museum. By Prof. R. K. Douglas, M.R.A.S. 1877. And, "China," Encyclop. Brit., ninth edition.

A Manual of Chinese Bibliography—a list of works and essays relating to China. By O. von Moellendorff. Shanghai, 1876.

A Chinese Dictionary in the Cantonese Dialect. Part 1. A to K. By Ernest John Eitel. 1877.

Thai-kih-thu, with Tschu-hi's commentary—Chinese, Manchu, and German. By George v. Gabelentz, a worthy son of an illustrious father. Dresd. 1876.

An Introduction to the Study of the Chinese Characters. By J. Edkins, D.D. Lond. 1876.

To these we may add:

Richthofen, F. v.—Eriebnisse eigener Reisen und darauf gegrundeter Studien. Vol. i. 1876.

Kleczowski, J.—Cours graduel et complet de Chinois parlé et écrit, tirée de "L'Arte China" du P. Gonsalves.

Dennys, N. B.—Folklore of China, and its Affinities with that of the Aryan and Semitic Races.

Schereschewsky.—Paper on Versions of the Chinese Language in the proposed Mongolian Version. (In American Or. Soc. Nov. 1875, May, 1876.)

Douglas, Prof.—Chinesische Sprache und Literatur. (A transl. by Dr. W. Henkel.)

Pfizmaier, Dr. A.—History of the Court of Tsin. Sitz. ber. d. Acad. Wien.

———— History of the Period of Yuen Khang of Tsin, A.D. 291-299. Ibid.

Pfizmaier, Dr. A.—Complement to the Essay on the Trees of China. Ibid.

Legge, J., D.D.—Inaugural Lecture on the constituting a Chinese Chair at Oxford, October, 1876.

It is right further to state that M. Moellendorff's work, noticed above, contains, practically, a full catalogue of every work relating to China. It is of some interest that this and other works on kindred subjects are now printed in English. Not long since, in coucluding a treaty with China and Japan, the Peruvian Envoy insisted on a tripartite text for both agreements, and that, in case of auy difference of opinion, the English text should be accepted as final. We may further add, that Mr. A. van Name (of Newhaven) has recently published a History of the Corean Language, in connexion with Dallet's Histoire de l'Eglise de Corée; that Mr. W. T. Mayers has recently compiled a Grammar and Vocabulary of the Coreau Language; and that the Rev. Canon McClatchie, who, twenty-seven years ago, contributed to the Journal of this Society (Vol. XVI. 1856) a very interesting paper on "Chinese Theology," has printed the first translation of the Confucian Cosmogony (*China Review*, vol. iv. p. 2), as well as a translation into English of the Yih King of Confucius. Mr. McClatchie is now occupied on a translation of Confucius's Le ke or Book of Rites. A remarkable work has been recently printed in China with the title "Catalogus Patrum ac Fratrum e Societate Jesu qui à morte S. Fr. Xavierii ad annum MDCCCLXII. Evangelio Xti Propagando in Sinis adlaboraverunt." This work, which bears the "imprimatur" of Adrian, Bp. of Nankin in 1873, will no doubt be of some value for history and of still greater local usefulness; as it is well known that many works were compiled in Chinese during the seventeenth and eighteenth centuries, under the influence of the Jesuits, but with the names of their authors so disguised in their Chinese forms, as to be, practically, unrecognizable.

In *Japanese* we note a continuous and steady progress. Thus we may call attention to Hoffmann's Japanese Sprachlehre, Leiden, 1877; to Mr. E. M. Satow's Revival of Pure Shinto, the creed of Japan previously to Buddhism; and to Satow, E. M., and Ishibashi Masakata, an English and Japanese Dictionary; to two able papers by M. Pfitzmaier in the Sitz. ber. of the Academy of Vienna, "On Japanese Geographical Names," and "Notices of the Japanese Poet, Sei Saô-na-gon," a writer of the tenth century A.D., and "Der Nebel der Klage, ein Japanisches Zeitbild," 4to. Wien, 1876; there are, also, various interesting Notices in the Bolletino Italiano, showing that the study of this language is pursued energetically by the scholars of Italy, as, for instance, the "Repertorio Sinico-Giapponese," a catalogue of Japanese books in the "Biblioteca Vittorio-Emmanuele" at Rome. Mr. Basil Hall Chamberlain has also printed an excellent Essay on those curiosities of Philology, the "Pillow-words" of the Japanese language.

The Society for the Study of Japanese, under the presidency of the Count Charles de Montblanc, has just completed its valuable work, "Extraits des histoires du Japon." This work is contained in three *fasciculi*, and is preceded by an analytical introduction drawn up by M. Imamura Warau, who has also contributed articles to the Mem. de la Soc. d'Ethnogr., vol. xiii. These "extracts" will prove of the greatest value to the student.

Altaic and Ugro-Finnish and Turkish.—In the pages of the Journal of the Société Linguistique de Paris is a remarkable paper by Dr. Donner of Helsingfors, "On Ugro-Finnic Studies," and the same scholar has recently completed the second volume of his Finnic Dictionary: and, in the Revue de Philologie, conducted at Paris by M. Ujfalvy, are, a translation into French of M. Schott's Essay on the Tschouwaches, a tribe of the Turkish branch of the Altaic family; on the

language of the Ugro-Finnish branch of the Altaic family by M. Ujfalvy; some very important remarks on the classification of the Uralic or agglutinating languages of Northern Asia by Prince Louis Lucien Bonaparte; an Essay on the Volga; and an Essay on the grammar of the Vepsa or Tchudish Mordvin, one of the Altaic family, by Vladimir de Mainof. To these may be added, M. Schott, "Zur Uiguren Frages," in the Abh. d. Kon. Acad. z. Berlin; M. Balint, Kazani Tatar, Buda-Pest, 1876; Hunfalvy, Magarország Ethnographiaja, Buda-Pest, 1876; and Col. Prejevalsky's "Mongolia, the Tangut country and the solitudes of Northern Tibet," recently translated from the Russ by E. Delmar Morgan, with notes by Colonel Yule, C.B.

In *Turkish*, may be noticed Ahmed Vefyq Efendi's Lehdjè-j-Osmani Dictionnaire Ottoman, 2 vols. 8vo.; R. D. Shaw's Sketch of the Turkish language of Eastern Turkestan; Lorenz Diefenbach's Die Völkstämme d. Europäische Turkie; Mr. E. Arnold's "Simple Transliteration of the Turkish Language;" and F. L. Hopkins' "Elementary Grammar of the Turkish Language."

Cypriote.—The interpretation of the Cypriote inscriptions is advancing, and several books have been published and papers written about them during the last eighteen months. Of these we may mention Mr. Hall's Essay on the Cypriote Inscriptions of the Cesnola Collection in New York; papers by Mr. Sayce in the Boll. Italiano, and by Messrs. Birch, Fox Talbot, and Pierides in the Journal of Biblical Archæology; the Atti della R. Acad. d. Scienze di Torino, vol. xi. 1871; and a paper by M. Clermont Ganneau, "Sur le Tresor le Curium." Dr. Moritz Schmidt of Jena has made a collection of these Inscriptions; M. Leon Rodet has contributed to the Revue de Philologie, an "Essai sur le déchiffrement des Inscriptions pretendues Anariennes de l'Ile de Chypre;" and General Palma di Cesnola has published a paper entitled

"Scavi nell' Isola di Cipro," which was originally read before the "Classe di Scienze morali," etc., at Turin.

Semitic Literature.—Hebrew.—The first part of the Catalogue of the University Library at Cambridge has been published by Dr. Schiller Szinessy; and Prof. Graetz has now completed with his second volume the History of the Jews up to 1848; and the Rabbi Weiss has brought out (in Hebrew) his second volume of the History of Rabbinical Literature, comprising the period from the destruction of the Second Temple to the close of the Mishna, A.D. 180; his second volume being, however, a compilation, and, therefore, less original than his preceding one.

The publication of a collection of the late Dr. Geiger's minor articles, as well as of Dr. Zunz's scattered papers, is progressing.

Dr. Güdemann has contributed from Talmudical sources an essay on St. Matthew's *Logiâ*; and an important book on Hebrew mythology, which will be shortly published in an English dress, has been issued by Dr. Goldziher, a young professor at Buda-Pesth. Dr. Levy's Talmudical Lexicon has reached the letter ה; and to Mr. Reginald Lane Poole we are indebted for a translation of Dr. Land's Hebrew grammar, which will prove of much value to philologists.

To Dr. Ginsburg we owe an able paper "On the Babylonian Codex of Hosea and Job" of the tenth century, now at St. Petersburg (Bibl. Archæol. v.), and to Dr. A. Löwy a very curious paper "On a unique Specimen of the *Lishana Shal Imrani*, the modern Syriac or Targum Dialect of the Jews of Kurdistan and adjacent countries; with some account of the people by whom it is spoken" (Bibl. Archæol. iv. 1). This paper contains the first chapter of Genesis, and three verses of the second, with the Institution of the Sabbath, as written down for him by a Jew of Salmao near Urmiah, and represents the dialect still in use among the Jews of that

part of Asia. Lishana Shal Imrani, or Lishanah Imrani, means "the language of the inhabitants."

M. Jellenek has also published a work entitled Jedidjah Salomo; being a preface to the Masoretic Commentary on the Bible by Norzi; a work originally completed so early as 1626, but not published till 1742.

In Palæography much more has been done. Thus M. Renan has published in the *Journal Asiatique* for August-September, a Hebrew Inscription found by M. Guerin at the village of Alma in Galilee; and M. Philippe Berger has given an account in the same Journal of certain sacred stones, called by the Phœnicians *Neçib-Malak-Baal*. M. Renan compares his inscription with one discovered at the Synagogue of Kefr Bereim, which was published by him in 1864, and thinks its date may be of the third or fourth century. The squareness of the characters, however, suggests a date considerably later.

The memoirs of the Academy of St. Petersburg for this year contain an elaborate essay by Dr. Harkavy on the colophons of the Pentateuch rolls in the Library of St. Petersburg, and on the tomb inscriptions found in the Crimea. That the former are genuine, can hardly now be maintained; but it required some labour and *acumen* to prove M. Firkovich, the collector of these documents, a Karaite *Simonides*. Dr. Harkavy has, however, completely shown this, detecting, as he has done, step by step, the various additions and corrections made in these Inscriptions. Thus the early Inscription presumed to be of 6 B.C. is now brought down to the eleventh or twelfth century; and the history of an early Jewish (or rather Karaitic, according to M. Firkovich's theory) settlement in the Crimea is shown to have existed only in the imagination of that ingenious collector.

M. Neubauer, Sub-Librarian of the Bodleian, who visited the Russian capital last autumn for this purpose, has, in a letter to the Vice-Chancellor of Oxford, given a brief but clear account of the Hebrew-Arabic and Hebrew MSS.

procured from M. Firkovich, and now in the Imperial Library at St. Petersburg. The second collection—the earlier one was secured in 1863—consists of more than 1000 separate volumes, collected apparently from the Karaite synagogues in Egypt and at Hit in Mesopotamia. Among these are a large number of Pentateuch Rolls and of Biblical MSS., the oldest of the latter being dated A.D. 913-933.

Other works completed or in progress are the following:

Makkoth, Fr.—Migdal Chananal. Ueber Leben und Schriften R. Chananel's in Kairvan.

Moritz, E.—Vorlesungen über die Judischen Philosopher des Mittel Alters. 1 Abth.

Frensdorff, Prof.—Die Massora Magna, nach den ältesten drücken mit zu ziehang älte MSS.

Luzzato, S. D.—Erlauterungen über einem Theil der Prophete und Hagiographen.

Berliner, Dr. A.—Die Massora und Targum Onkelos.

Rabbinovicz, R.—Variæ lectiones in Mischnam et Talmud Babylonicum.

Sammter, Dr. A.—Talmud Babylonicum. With translation in German. 8th Lief.

Martin, Sir W.—Inquiries Concerning the Structure of the Semitic Languages. Part I. Hebrew Verb.

Samaritan.—The following works may be noticed:

Brüll, A.—Das Samaritanische Targum zum Pentateuch. Frankfort.

Köhn, S.—Zur Sprache, Literatur und dogmatik der Samaritaner. Leipzig.

Arabic.—France has been particularly active in this branch of Eastern learning during the past year. Thus, M. Leclerc has completed his history of medicine among the Arabs: while the translation by M. Sauvaire of the fragments of "Mujir-ed-din," relating to the history of Hebron and Jeru-

salem, is an important contribution to the geography of Palestine. Written in A.D. 1494, it naturally tells us nothing new of the early history of those places, but, with exception of what has been quite recently discovered, it is the real and only authority for all we know about the Tomb of Hebron. At the same time it should be remembered, that M. Sauvaire does not pretend that his work is a complete edition of his author; his object having been, chiefly, to offer to the many visitors to the Holy Land a book of instruction, and one, at the same time, pleasant to read.

We may add, also, here, M. de Saulcy's most recent and useful book "Dictionnaire topographique de la Terre Sainte;" and M. Clermont Ganneau's "Palestine inconnu," in which he has for the first time applied, for the illustration of *Old* Palestine, *data* acquired from Musalman sources, oral traditions, and the manners and customs of the present *Fellahin;* M. Machuel's "Une première année d'Arabe à l'usage des classes élémentaires d'Algerie;" and M. Marc's "Abd-Nameh d'Omar:" M. Lavoix has, also, published a small pamphlet entitled "Les peintures Arabes," in which he has shown that the world has formed a somewhat exaggerated notion of the extent of the Muhammadan aversion to the Plastic arts; and M. Boucher has far advanced with his publication of Ferazdak, one of the oldest Arabic poets. The value of this work is that it places before us a complete mirror of Arab life, so early as the times of the Ommiades. Lastly, M. Guyard has handled, at great length, in two numbers of the Journal Asiatique, the whole of the metrical system of the Arabs, a labour, essentially scientific, and of the highest value for those who are desirous of sounding the innermost depths of Arabian Philology.

In *Germany* we may notice some grammatical notes by Prof. Fleischer—a paper for the most part engaged in pointing out certain errors and defects in Prof. Trumpp's Ajrúmiyyah

(see Deuts. Morg. Ges. xxx. 3, pp. 487-513) ; Dr. Jahn's edition of Ibn Yaish's Commentary on the Mufassil of Zamakhshari ; and Prof. Sachau's publication of the first part of Albiruni's treatise on the Chronology of Oriental Nations for our own Oriental Translation Fund. M. A. Müller has edited the fourth edition of Caspari's Arabische Grammatik, incorporating, at the same time, many of the additions and rectifications of Prof. W. Wright ; and M. D. H. Müller the Kitab-al-Fark by 'Alaṣmai, from a MS. at Vienna.

In England we have an issue of a new edition of Mr. Rodwell's accurate translation of the Korán, and Prof. E. H. Palmer has completed his excellent work the Beha-ed-din, by an elegant translation in English verse. To Capt. Prideaux we are indebted for a valuable "Sketch of Sabæan Grammar" (Bibl. Arch. v.).

The following would seem to be among the more important works or papers bearing on Arabic subjects published during the last year :—

Sedillot. — Hist. Générale des Arabes. Second Edition. 2 vols. 8vo. 1877.

Frenkel, E. — An-Nahhás : Commentar zu Muallakah d'Amru'l Kais. Halle. 8vo. 1876.

Wustenfeld.—Geogr. Arabisch Worterbuch. 2 vols. 8vo. Gött. 1876-7.

Ibn Athir.—Histoire des Atabeks de Mosul (in the Recueil des Hist. d. Croisades, Tom. ii.) Paris. Fol. 1876.

Wahrmund, A. — Handworterbuch der Neu-Arabischen und Deutschen Sprache. 2 parts of 6 vols. in progress. Giessen. 8vo. 1874–7.

Grunert, Max Th.—The Imála or *Umlaut* of the Arabic writers, considered in the whole circuit of Classical Arabic, treated after the original Arabic grammarians and interpreters of the Koran. Sitz. B. d. Acad. d. Wiss. Wien, lxxxi. 3, pp. 447–542.

Loewe, Dr.—"On a Karaite Tombstone from Djuffet Kalaa in the Crimæa." Bibl. Arch. iv. 1.

Kremer, A. V.—Kulturgeschichte des Orients unter die Chalifen, Band Q. Wien.

Cherbonneau.—Dictionnaire Arabe-Francais (langue écrite).

Diercks, G.—Die Araber im Mittel-Alter. Leipzig.

Butrus el Bustány.—A general Encyclopædia. Beyrout and London.

Osborn, Major R. D.—Islam under the Arabs. Vol. i. London.

Hassoun, R.—Diwan de Hatim Tai, le texte Arabe. Paris.

Malmusi, B.—Arabic MSS. in the Library at Modena. Boll. Ital.

Lasinio, Prof.—On an Arabic globe recently discovered at Florence. Boll. Ital.

Amari, M.—Discr. dei lavori Orientale con inscrizioni Arabiche nel Mus. Kircheriano. Boll. Ital.

Guidi, L.—Cod. Arab. del Colleg. Urbano. Boll. Ital.

Two Arabic newspapers have been published in London during the last six months, the Maratu'l Ahwál by Mr. Hassoun, and An-Náhlah by Mr. Sabunji.

In connexion with *Arabic*, though not, of course, because they are cognate languages, this will, perhaps, be the best place to notice two remarkable works that have appeared from the French press with reference to the Berber tribes of North Africa. The first, by M. Mercier, is entitled "Histoire de l'Etablissement des Arabes en l'Afrique Septentrionale"; the second, by M. Fournel, "Les Berbers; Etude sur la Conquête d'Afrique par les Arabes, d'après les textes Arabes inprimés," tome i. The value of these works is that they enable us to see that the Arabic of the northern provinces of Algiers, Tunis, and Morocco, is a deposit simply overlying the surface of the previous and really original Berber. It is quite certain now, thanks to the able researches of these two French scholars,

that the Arabization of Africa falls under two distinct phases; the *first*, the conquest of the seventh century, followed, as this was, by an occupation of the country alike difficult and precarious, a period when the population remained essentially Berber, and adopted scarcely anything from their conquerors but the elements of the Musulman religion; the *second*, the invasion by the tribes of Hilal and Soleym in the eleventh century, which introduced into Africa an Arab race as a distinct element of the population of that continent. To this invasion, which gradually insinuated a purely Arab population into the valleys of the north, combined with a continual advance to the west, is mainly due the imposition on the indigenous Berbers of the manners and language of the Khalifs. No doubt that result was greatly aided by the direct action of the Khalif Mostanser, who, in A.D. 1049, cleared the neighbourhood of Barka, Ifrikia, etc., of some 200,000 families, driving them, with their wives, children and flocks, into the western and southern highlands of Atlas. The two works of M. Mercier and of M. Fournel may be considered supplementary, the one to the other. It should be added that the latter clearly demonstrates that the industrious, hardworking Kabyles are the genuine descendants of the original Berbers. As bearing on this subject, it may be noted, that M. Reboud has published a collection of Latin and Berber Inscriptions (under the title of Recueil des Inscr. Libyeo-Berbères), and that General Faidherbe has shown much skill in their interpretation, proving satisfactorily that the Berber race of old had much real cultivation. It will be remembered that Mr. Francis Newman, twenty-nine years ago, in the pages of the Journal of this Society, first called attention to the value of the study of the Berber dialects.

Syriac.—The most curious work that has been published is a German translation, by Prof. Bickell, of "Kalilag und Damnag," an old Syrian version of this ancient Indian

tale. As Prof. Benfey has pointed out, the original is an almost literal translation from the Pehlevi, which is itself translated from the Sanskrit *Pantshatantra*, the originals of both of which are now lost. The Arabic translation from the Pehlevi has many interpolations. Prof. Bickell has also published a second volume of the works of Isaac of Antiochia; and Prof. Noldeke has given a notice of this book in the D. M. G., vol. xxx. p. 3. Besides these, we may notice an article by Dr. Nesle on the punctuation of Syriac, D. M. G., vol. xxx. p. 3.

Himyaritic and Æthiopic.—In *Himyaritic*, M. D. Müller has written a paper on Four Unedited Himyaritic Inscriptions in the British Museum, with reference, also, to eight others obtained from Capt. Miles, and eleven from Mr. Rehatsek (D. M. G. vol. xxx. p. 4). Dr. Müller adds some remarks on two Inscriptions published by M. Mordtmann, and has further attempted the decipherment of the Harran (*i.e.* Haurán) Inscription procured by M. Wetzstein.

In *Æthiopic*, Mr. G. H. Schodde has published *Herma Nabi*, an Æthiopic version of the "Pastor Hermas," and M. Antoine D'Abbadie has read a paper in the Acad. des Inscr., on an Inscription originally published by Ruppell.

Inscriptions.—Much has been done in the interpretation of old and in the acquisition of new inscriptions during the past year. In Germany, Messrs. Kautsch and Socin have conclusively shown that the so-called Moabite Inscriptions on the pottery acquired for the Museum at Berlin are, without exception, gross forgeries; these conclusions having, indeed, been already fully borne out by the personal researches of M. Clermont Ganneau, whose practical knowledge prevented him from the first from being a dupe of the designing forgers of Jerusalem. Mr. Euting has also published a useful little work entitled "Semitische Schrift-tafel," Strassburg, 8vo. 1877.

In *France*, great success has attended the search for Punic inscriptions, chiefly, as might have been anticipated, in the towns of the interior of Africa. Thus, from a necropolis near Constantine, M. Costa has sent not less than one hundred paper impressions; and the vast collections of M. Ste. Marie from Carthage, amounting to no less than two thousand six hundred individual inscriptions, are now available for publication, and will ere long see the day under the auspices of the "Commission des Inscriptions Semitiques." M. de Ste. Marie has lately offered to the Institute twelve volumes of such impressions, and as these are all in duplicate, many in triplicate, the loss of some of the originals by the blowing up of the Magenta, in Toulon roads, will not prove as serious to Science as was at one time feared.

Assyriaca.—The loss of Mr. George Smith, whose untimely death took place at Aleppo, during the last summer, has thrown a temporary gloom over Assyrian pursuits; but, though actual authoritative excavations have been for a time suspended, chiefly by the refusal of a firman to M. Hormuzd Rassam, and there might thus have been some fear that these studies would be arrested by the want of a fresh supply of original documents, it must, on the other hand, be recollected that a great mass of material already collected still remains untranslated. Besides this, many "sporadic" excavations continue to be made from time to time, leading, as these have led, to the discovery of several thousand inscribed tablets, many of which will, probably, prove to be contributions to Babylonian literature, a branch of Cuneiform for which we have fewer documents than in the case of Assyria. Moreover, in no previous year, has so much been done for the publication of translations into English of new texts, or for the revision of others partially made known previously.

Thus, "The Eleventh Tablet of the Izdubar Legends relating to the Deluge" (Records of the Past, vol. vii.), by the

late Mr. Smith, has been printed, being the first of a series of papers he had hoped to write on this subject, and which was, in fact, being printed in England, at the very time he was dying. Nor has that veteran interpreter, Mr. Fox Talbot, been idle; as he has contributed to the Transactions of the Biblical Archæological Society, a "Commentary on the Deluge Tablets" (iv. 1); a paper on "A Tablet in the British Museum relating apparently to the Deluge" (iv. 1); a notice of "The Fight between Bell and the Dragon" (v. 1); "The Revolt in Heaven" (Records of the Past, vii.); "The Inscription of Nebuchadnezzar at Sen'kereh" (ibid); "A Prayer and a Vision" (ibid); "Inscription of Nebuchadnezzar at the Birs-i-Nimrud" (ibid); and "The Standard Inscription of Ashur-akh-bal" (ibid).

M. Jules Oppert has given four papers to "Records of the Past," vol. vii.: "The Annals of Sargon," "On Three Assyrian Deeds," "The Median Version of the Inscription at Behistun," and "Susian Texts:" he has, also, written a paper in the Monatschr. of Berlin, Feb. 1877, entitled "Inscription en langue Sumerienne," and published a separate tract called "Sumerien ou Accadien." 8vo. Paris. To the Revd. W. Houghton we are indebted for two curious papers "On the Mammalia of the Assyrian Sculptures" in the Trans. Bibl. Archæol. v. and vi.; and to the Revd. J. M. Rodwell for a translation of the Bull Inscription of Nebuchadnezzar (Records, vol. vii.).

Mr. W. St. Chad Boscawen has shown his ability as a translator in several texts recently published, one of the most curious of which is "An early Chaldæan Inscription" (Bibl. Archæol. iv. 1.), written in Assyrian, but a translation of an early Accadian text, the colophon stating that it was copied for Ashurbanipal, and placed in his palace. This inscription gives the names of five new Chaldæan kings, and throws much light on the religious feeling and ritual of the early Babylonians. With this notice, Mr. Boscawen comprehends several

interesting texts relating to the Temple of *Bit Saggdhu* at Babylon. Mr. Boscawen has, also, printed papers "On the Legend of the Tower of Babel" (the text and translation in Bibl. Archæol. vol. v. and the translation alone in "Records," vol. vii.); a "Historical Inscription of Esarhaddon (Bibl. Archæol., vol. v.); and "The Inscription of Agu-kak-rimi" in the "Records," vol. vii.

Mr. Sayce has contributed to the Trans. Bibl. Archæol. (vol. iv.) a remarkable paper "On Human Sacrifices among the Babylonians," derived in part from an Accadian poem, to which an Assyrian translation has been affixed, and which, therefore, ascends to pre-Semitic times; and partly, from a tablet belonging to the Library of Sargon at Agane, of a date between B.C. 2000 and 1700—together with a "Revised translation of a passage in the great Astronomical work of the Babylonians" (ibid). He has, also, given three papers to "Records of the Past," vol. vii.: the first, "On Babylonian Moral and Political Precepts;" the second "On an Accadian Penitential Psalm;" the third, "A Babylonian Saints' Calendar." To these may be added an able paper by Dr. Ginsburg, "On a Babylonian Codex" (Bibl. Arch. v. 2); an article by Mr. Sayce on Gutschmid's "Neue beitrage zur geschichte des alten Orients" in Boll. Ital. p. 102; and a letter, also, by Mr. Sayce, "On the Geography of N. Syria," Acad., 1876, p. 454; M. Halevy's "Recherches critiques sur l'origine de la civilization Babylonienne," Paris, 8vo. 1877; a valuable work by M. Lenormant, intituled "Etude sur quelques parties des syllabaires Cunéiformes"; and M. Delitsch's "Chaldäische Genesis"—a translation of Mr. George Smith's work, with abundant corrections and some additional matter.

Mr. Sayce has given three very interesting Lectures in the theatre of the Royal Institution in April and May of the present year "On Babylonian Literature." In the first of these, he gave a sketch of the history of the decipherment of the Cuneiform inscriptions—of the discovery of Ashurbanipal's library

at Nineveh—of the libraries founded in Babylonia by the pre-Semitic Accadians—and by Sargon, the great early monarch of Agane. He then showed that the library of Nineveh consisted very largely of translations into Assyrian of Accadian tablets brought from S. Babylonia and Chaldæa, and noticed the arrangement of the Ninevite Library. Mr. Sayce then showed that the historical life of Assyria rested on a basis of Chronology, which was really sure, and, in principle, not unlike that of the Archon-system at Athens, each year being marked by the name of an Eponymus, the earliest yet traced being that of B.C. 909: with regard to the distinction to be drawn between Accad and Sumir (or Shinar), Mr. Sayce held that the former were the people of the highlands, the latter of the plains—Izdubar and Zisuthrus being, at least provisionally, identifiable with Nimrod and Noah.

In his second lecture, Mr. Sayce pointed out certain marked features of distinction between the Assyrians and Babylonians, the first being a people in all things essentially practical, the second naturally fond of the dreams and fancies of poetry; and discussed, at some length, the "Legends of the Flood," and their remarkable resemblance, even in matters of detail, to the Bible-story. Mr. Sayce then alluded to the Tower of Babel, and the local legend that what was built up by day was blown down at night; to the Accadian account of the Creation, and to the remarkable similarity between the earliest Greek legends, and the still more remote Chaldæan stories; together with the curious story of the descent of Ishtar into Hades. It was clear, he added, that the early myths of Southern Babylonia had largely influenced the mythology of later nations, and had, in fact, been handed on through Phœnician, Jew and Greek, even to the North of Europe. With regard to the date of the earliest writings, Mr. Sayce considered the hymns the eldest, though much of what has come down to us was evidently of a period when many, if not most of these had been forgotten. The Accadian religion he showed was originally Shamanism,

with an abundant use of sorcery and of charms; the powers of evil being looked upon in the light of inferior deities. Bloody Moloch was not, as had been supposed, of Semitic origin, but derived from the Accadians. Hence, too, the Gnostic charms and symbols, the belief in witches, ancient and modern, and in the Evil Eye.

In his third lecture, Mr. Sayce entered very fully into the history of Babylonian Science, showing that though much elementary work had been previously accomplished by the Accadians, Babylon may be fairly considered the true inventress of Mathematics and Astronomy. To the Accadians we owe the earliest unit, 60.; the invention of an almanac; the signs of the Zodiac, from which the months were named; and the arrangement and number of the days of the week, 7 being with them, as long subsequently, a Sacred Number. The Accadian system was, however, astrological rather than astronomical, the wish of the people being rather to discern the future than to describe the present. On the other hand, the Babylonians looked to practical work and knowledge; hence celestial observatories in all their chief cities, with formal reports sent in every two months. Comets, the conjunction of the Sun and Moon, and the true position of the Pole Star were recognized; the Milky Way detected; and an attempt, even, made to form a planisphere, the Equator being divided into 240 parts. The Babylonians, Mr. Sayce added, were clearly law-lovers. Royal judges were appointed, no bribes permitted, while the State looked after the slave and his children, slaves being recognized as having some rights. The mother ranked first; the denial of a mother's request involving heavy punishment, while, in the case of the father, this could be condoned for by a simple penalty. Both father and mother were punishable for neglecting their children.

Taxes were levied from burghers and strangers. Under the late Assyrian Empire, large sums were obtained from the dependent Satrapies; while the country at large paid a regular

fixed tax. Thus Nineveh paid 30 talents; Carchemish, 100; Megiddo, 15. The manah was, after the capture of Carchemish, the accepted standard. A great banking firm existed at Babylon, and was carried on from father to son for five successive generations—indeed, out-lived the capture of Babylon. Bank holidays were regularly kept. In conclusion, Mr. Sayce stated that a work on Agriculture had been met with, fixing three seasons for the farmer, and stating that the tenant was entitled to two-thirds of the produce, one-third being reserved for the owner. And further, that the state of education in those ancient days was quite comparable with that of much more modern times. The young Assyrian was compelled to study his own language, and, in some cases, Accadian also. The schools were, generally, open, and libraries abundant.

Phœnician.—Dr. Euting has advanced the study of Phœnician by more than one article in the Trans. of the Germ. Orient. Society; and Dr. O. Blau has given a paper in the same Transactions, called "Phönikische Analecten:" a paper has also been read before the "Acad. d. Inscriptions" by M. Renan, on fragments of vases found in Cyprus bearing on them archaic Phœnician letters.

Armenian.—M. Gutschmid has published a valuable essay, Ueber die glaubwürdigkeit d. Armenische geschichte d. Moses von Khoren; Dr. Dervischjan, a Journal on matters Armenian, entitled Armeniaca I.; and M. Patkavoda, "Investigations into the Armenian Language," in Russ.

Maltese.—M. Sandreeski has given in the D. M. G. vol. xxx. p. 4, an excellent paper, "Die Maltesische Mundart," in which he shows how curiously the Maltese spoken dialect is made up from the languages of neighbouring nations, its base being Semitic.

Egyptology.—The last year has been a busy one with the

Egyptologists, the number of valuable papers read and printed affording good evidence as to the number of scholars now devoting themselves to this branch of Oriental study, and to the activity with which they have worked. To Dr. Birch we owe three papers in the Trans. Bibl. Arch. One on "The Tablet of Antepaa II.," with a curious disquisition on the dogs of ancient Egypt, and on the pack belonging to that ruler (iv.); on the "Unrolling of a Mummy at Stafford House" (v.); and "On an Inscription of a Darius in the Temple at El-Khargeh" (v.), together with five articles in "Records of the Past,"—as "The Praise of Learning" (viii.); a "Decree from Canopus" (ibid); "Inscription from the gold mines of Rhedesieh and Kuban" (ibid); "The great Harris Papyrus" in conjunction with M. Eisenlohr (ibid); and the translation of the "Inscription of Darius from El-Khargeh" before alluded to.

M. Lefébure has contributed a paper to the Trans. Bibl. Archæol. (iv.) "On the four races at the last Judgment," taken from the Sarcophagus of Seti I., and published by Messrs. Sharpe and Bonomi, with emendations by M. Pierret; the chief object of the paper being to show the remarkable analogy that exists between Egyptian and Christian views on that subject. And M. Naville has given a paper to the same Journal—which is published in the same volume as the last—on "The Distinction of Men by the Gods," from a mythological inscription on the tomb of the same monarch at Thebes, and also one "On the Litany of Ra" in "Records of the Past" (viii.). *M. Ebers* in the Trans. of the German Oriental Society (xxx. 3), and M. Chabas in the Acad. des Inscriptions, have given many interesting details with reference to the remarkable hieroglyphical inscriptions, discovered by the former at Abd-al-Kurneh, a well-known portion of the Necropolis at Thebes. M. Chabas has also described "An Egyptian Stêle in the Museum at Turin." Prof. Lushington has contributed two papers to "Records of the Past" (viii.), one entitled "Hymn to Ra-Harmachis;" the other, "Fragment of

the first Sallier Papyrus"; while Mr. Le Page Renouf has contributed to the same work "Abstracts of a case of Conspiracy;" M. Brugsch Bey, "The great Mendes Stêle;" and M. Deveria, "The Papyrus of Moral Precepts" (all in vol. viii.).

M. Eugène Revilhout has made a very important discovery, and one likely to lead to others. Two years ago the National Library at Paris purchased a MS. in the Demotic character with five columns on the first page and several more on the back in a different hand. M. Revilhout found out that it really commences with the sixth chapter of a Chronicle, similar to that of Manetho, and goes down to the thirteenth chapter. It treats of the period between the years B.C. 410 and B.C. 345, comprises three dynasties and about ten princes, and throws some light on the period when the Greeks were the allies of the Egyptians against the Persians. M. Revilhout has read a paper on this discovery before the Academie des Inscriptions, entitled "Une Chronique Egyptienne contemporaine de Manethon." M. Maspero has also written a paper "On the Name of an Egyptian Dog" (Bibl. Archæol. v.).

M. Lauth has contributed to the Sitzungs-berichte of the Academy of Munich a notice of Horapollo, in which he reconsiders the nature of this work, and highly praises an early work by Prof. Leemans, "Hieropollinis Niloi Hieroglyphica, Amstel., 1835." He adds much interesting matter, and many corrections, due to the widely increased knowledge of Hieroglyphics during the last forty years. M. Bergmann, in the Sitzungs-berichte of the Academy of Vienna has treated of "An Inscription on a Sarcophagus of the time of the Ptolemies." Several important works bearing on Egyptian subjects have appeared during the last year, of which the following may be specified:—

Birch, S.—Monumental History of Egypt. Rede Lecture delivered before the University of Cambridge.

———— Facsimile of an Egyptian Hieratic papyrus of the reign of Rameses III., now in the British Museum.

Riel, Carl.—Der Doppel Kalender des Papyrus Ebers.—Mit dem Fest und Stern Kalender von Dendera.

———— Das Sonnen, und Sirius' Jahr der Ramessiden mit dem Geheimniss der Schaltung und das Jahr des Julius Cæsar.

Rougé, E. de.—Chrestomathie Egyptienne.

Ebers. Uarda, Roman aus d. Alten Egypt. J. de Rougé. Inscriptions Hieroglyphiques copiées en Egypte pendant la Mission Scientifique de M. Le Vicomte Emm. de Rougé. 4to. 1877.—Rivières, P. de. Questions Egypto-Bibliques. 8vo. Paris.—Soldi, E. L'Art et ses procedés depuis l'Antiquité. La sculpture Egyptienne. Paris.

Chabas, F.—Notice du papyrus Medical Ebers.

Szedlo, J.—Le Grand Sarkophage du Musée de Bologne avec 32 légendes hieroglyphiques interprétés et expliquées.

Maspero, G.—Mémoire sur quelques papyrus de Louvre.

Robiou.—Mémoire sur l'economie politique, l'administration et la législation de l'Egypte au temps des Lagides.

Mariette-Bey.—Deir-el Bahari, Documents topographiques, historiques, et ethnographiques. Recueilles dans un Temple pendant les fouilles.

Dümichen, J.—Bau-geschichte des Dendera Tempels und beschreibung der Theile des Bauwerkes nach den befindlichen Inschriften.

Brugsch-Bey, H.—Drei Fest-Kalender des Tempels von Apollinopolis Magna in Ober-Ægypten zum ersten male veröffentlich und sammt den Kalender von Dendera und Esne vollständig übersetzt.

———— Geschichte Ægyptens unter der Pharaonen nach der Denkmälern bearbeitet.

———— Sieges-Inschrift Königs Pianchi von Æthiopien vollständig übertragen [Extracted from the Nachrichten v. d. Königl. Ges. d. Wissensch. z. Göttingen. The Inscription of Pianchi is also printed and translated at full length in M. de Rougé's Chrestomathie].

Brugsch-Bey, H.—Der Bau des Tempels Salamo's nach der Koptische Bibel-version.

Rochemonteix, Marq. de.—Essai sur les rapports grammaticaux qui existent entre l'Egyptien et le Berbère. [Extracted from Mémoire du Congrès International des Orientalistes.]

Revilhout, E. — Papyrus Coptes, actes et contrats des Musées Egyptiens du Boulaq et du Louvre. Textes en fac-simile.

Abel, Carl. — Koptische Untersuchungen. [Three parts have appeared; two of vol. i. and one of vol. ii.]

Eudemann, K.—Versuch im Grammatik des Sotho.

Pierret, P.—Vocabulaire Hieroglyphique.

Lieblein, J.—Index alphabetique de tous les mots contenus dans le livre des Rois publié par R. Lepsius; and En Papyrus i Turin, for förste gang udgivet og oversat. Christiana. 8vo.

On Egyptian literature, generally, should be noted Zeitschrift für Ægyptische Sprache und Alterthumskunde, edited by MM. Lepsius and Brugsch, in which are many able articles by Dr. Birch, Prof. Noldeke, M. Kabis, MM. Goodwin, Naville, Golenischeff, and the Rev. D. H. Haig.

Mélanges d'Archéologie Egyptienne et Assyrienne, tom. iii.

Etudes Egyptologiques, 5e—7e Livr., with papers by MM. Revilhout and Guiesse.

L'Egyptologie, Journal Mensuel, pub. par F. Chabas.

Monuments Egyptiennes du Musée d'Antiquités des Pays Bas à Leide, par C. Leemans, 27e Livr.

Two other very important works have just been advertised:

Brugsch-Bey, H.—Dictionnaire Geographique de l'ancienne Egypte, contenant tous les noms geographiques qui se rencontrent sur les monuments Egyptiens.

Eisenlohr, A.—Ein Mathematisches Handbuch der Alten Ægypten (Papyrus-Rhind des Brit. Mus.) übersetzt und erklart.

Of the Societies, which devote more or less of their time

and resources to the development of Oriental literature, we must notice, first, that of *Biblical Archæology*.

This Society has continued its active and successful labours during the last year, and has published two parts, making up vol. v., the value and cost of which may be estimated from the variety of texts published, and the number of special types required for this purpose. The principal papers contained in this volume have been noticed under their respective heads. At the same time, it can hardly be denied that the Assyrian researches of Messrs. Talbot, Sayce, Oppert and others would be more appropriately given to the Meetings or the Journal of this Society.

Under the patronage of the Society of Biblical Archæology, the elementary classes for the study of the Assyrian and Egyptian languages have been continued, during this, the third Session, by the kind and gratuitous labours of Mr. St. Chad Boscawen, and of Mr. Le Page Renouf. These classes have been well attended, and many promising students have been successfully carried over the threshold of the study of these recondite languages. It is but reasonable to hope, that one result of the Commission appointed by Parliament to consider the advisability of a partial redistribution of the revenues of Oxford and Cambridge, will be the creation of new Professorial chairs for branches of Oriental learning, which can hardly be said to have hitherto received any adequate recognition or support. Oxford and Cambridge will, in this respect, wisely follow the good example set by many of the small and poorly endowed Universities on the Continent.

The path of students in the pursuit of these ancient and still obscure languages has been, of late, considerably smoothed, and to an extent fully intelligible by those who had originally to decipher mutilated tablets of stone or clay without the aid of Grammar, Dictionary or Syllabary, by the continued publication of those useful little volumes—"The Records of the

Past"—two of which, the 7th and 8th, have been recently issued. In these, excellent English translations (to which allusion has already been made) will be found of many or most of the more important texts.

Persian.—There have been several works or papers recently published, of great interest and value, relating to this language. Of these the following may be specified:

A small edition in 12mo., vols. 1 and 2, of Firdusi's "Livre des Rois," by Madame Mohl.

Mir Abd'ul Kerim Boukhary's "Histoire de l'Asie centrale," A.D. 1740–1818, translated and edited by M. Schefer.

Parthaen und Pehlav, Mada und Mah, by J. Olshausen.

Allegories, recits populaires traduits de l'Arabe, du Persan, de l'Hindoustani et du Turc, par M. Garçin de Tassy.

Concise Dictionary of the Persian Language, by Prof. E. H. Palmer.

Anvar-i Sohaili, by Mr. A. N. Wollaston.

Avesta, Livre Sacré des Sectateurs de Zoroastre, the first translation in French. By M. C. de Harlez.

Raccolti Epici del libro dei Re di Firdusi, by Prof. Pizzi.

M. A. O. Mordtmann has, also, contributed to the Sitzungsber. of the Academy of Munich, a valuable paper "On the Comparative Geography of Persia," in which he discusses very fully what is now known of Ancient Media.

In the same Sitzungsberichte, M. Chodzko has replied to Prof. Trumpp's views "On the Accentuation of Persian."

Society for Promoting Christian Knowledge.—During the last year this Society has issued several works, which, though not all, strictly, Oriental, are deserving of record here, as showing the zeal with which the study of languages is promoted by Societies whose chief business is the furthering of Missionary exertions. Thus in *Turkish*, a tract "On the Death of Christ" has been published, and the translation of the

English Prayer Book is in preparation. In Chinese, a primer in the Hangkow dialect, with a key, and a translation of Bishop Russell's sermons into the Ningpo dialect have also been issued. Many other works, of use to others as well as missionaries, have been prepared and are now ready; as, for instance, a portion of the Prayer Book in Russ, a Grammar and several minor works in the Cree language, and parts of the Prayer Book in Chippewa, a key to the Gospels in Maori, and several books in dialects of the African tongues, as Zulu, Suahili, Motu, etc., together with "Family Prayers" in Armenian. In connexion with this subject, we may add, that, though, at present, there has been no adequate successor to Dr. Bleek, to whom the credit is justly due of having been among the first to systematize the African languages, Bishop Steere has had much success with the Suahili, and has published a handbook, the accuracy of which practice has confirmed. The dialects of which he has printed something are the Rjas, the Nyanwegi, the Shambula, and the Makonde, all curiously different from one another, though preserving the same general lines of formation. Thus the Rjas has four forms of the future, while the Makonde, its close neighbour, has none at all. Bishop Steere has promised to send copies of all his books to our Library. We may add that it is now nearly an accepted fact that Malagasi (of which a grammar has recently been published by M. Marré de Marin, with the title "Grammaire Malgache fondée sur les principes de la grammaire Javanaise") is a Malay language from Sumatra, and that its connexion with the African Suahili is only that of loan-words, just as Persian has borrowed largely from Arabic. The Rev. Mr. Cousins, an excellent Malagasi scholar, who is at present occupied in translating the Bible, read a paper on this subject during last autumn before the Philological Society.

The British and Foreign Bible Society.—This Society, as in former years, so in the last, has increased its magnificent

repertorium of translations into the languages of Asia. We can hardly sufficiently appreciate the advantage to unsettled language, of such operations. Recently, the attention of the Society has been chiefly given to the languages of Azará-Armenian, Osmanli and Trans-Caucasian Turkish, Georgian, Persian, Pushtu, Sindhi, Santhali, and Mendari, on the Continent of Asia; and to Balinese and Batta, in the Islands of the Archipelago. Up to the present time this Society can exhibit the whole Bible, or parts of it, in no less than 212 independent idioms.

Philological Society. — This Society has continued the promise of good linguistic work shadowed forth in last year's report; and has issued three papers directly bearing upon Oriental subjects. These are, that by M. Pavet de Courteille, "On the existing state of our knowledge of the Turkish Language;" that by M. Léon de Rosny, "On the Japanese Language;" and that by Mr. Robert Cust, "On the Languages of the Indo-Chinese Peninsula and the Indian Archipelago." During the past year, also, papers have been read by Dr. Rieu, the Keeper of the Oriental MSS. at the British Museum, "On Persian Phonetics;" by Mr. E. L. Brandreth, "On the Classification of the Non-Aryan Languages of India;" by Mr. R. B. Swinton, "On Common Tamil," and by the Rev. A. H. Sayce, "On Accadian Phonology."

General Philology.—A valuable new work was commenced in the summer of last year, entitled Bolletino Italiano, under the able editorship of M. A. de Gubernatis. It has been since issued twice in the month, and has been the medium for the publication of many important notices of Oriental works.

Another useful and recent work, of which three parts only have as yet been issued, is M. A. Bezzenberger's "Beiträge zur kunde der Indo-Germanischen Sprachen." Besides this,

it may be stated that M. Fick has completed his Vergleichendes Worterbuch der Indo-Germanischen Sprachen; that M. Bréal has given an interesting essay in the Journal des Savants, "Examen critique de quelques theories relatives à la langue mère Indo-Européenne;" that Prof. Rhys has published a letter in the Academy "On Aryan Palatal Consonants in Teutonic Languages;" and that the second part of Schleicher's "Compendium," translated by Mr. Bendall, has been published.

Oriental Congress of 1876.—The most important event of the last year was the Meeting at St. Petersburg of the Third Oriental Congress, which took place in the early part of September, and was a complete success. It was not, on the whole, thought advisable that this Society should send to it any special delegates, the more so, as neither our President, or Director, or Sir Walter Elliot, were able to go there, but our Honorary Secretary and Librarian took some part in its proceedings, having been elected Vice-Presidents of the sections of Religious Sects and of the Caucasus, respectively.

The advantage of such meetings can, indeed, hardly be over-estimated, consisting as this does, not only in the interest of the subjects discussed, but in the opportunities offered of personal intercourse between the representatives of different countries. It is true that, in St. Petersburg, the difficulty of the local language diminished considerably the advantages derivable from the public readings and discussions; and that, though Russ, French, German, English, and Latin, were used indiscriminately, there was, naturally, a considerable preponderance of the first, so that it may be doubted whether, even up to this date, in spite of the able résumés in French published daily, any member of the Congress is fully aware of what was said in his hearing; nor, indeed, will this knowledge be obtained till the French report, now in course of publication by Mr. Brill, at Leiden, is issued from the press.

The next Congress is to be held at Florence in the September of 1878, under the presidency of Signor Amari. At this Congress it has been formally announced that a prize of 5000 *lire* will be given by the Minister of Public Instruction "al meglior lavoro sulle vicende della Civiltà Aria nell' India." The Director and Honorary Secretary of this Society have been requested to act as its agents in England.

Numismatics.—There is comparatively little to record under this head; but it may be stated that the valuable collection of the late Colonel Guthrie, R.E., has been finally purchased *en blocque* by the Imperial Government of Germany, and that there is some hope that a catalogue of it will be soon published by that able scholar, Prof. Pertsch, to whom its acquisition by Germany is largely due.

In the Journal of the Germ. Orient. Soc. Dr. Mordtmann has published an interesting memoir, entitled "Die Dynastie der Danischmende," a small Muhammadan dynasty in the Eastern part of Asia Minor during the twelfth century, some of the coins of which are curious, as having double Inscriptions in Greek and Arabic. Mr. S. L. Poole has, also, issued "Unpublished Coins of the Kâḳweyhis;" and "Inedited Arabic Coins" (second and third notices). The publication of what is called "The International Numismata Orientalia," or the "New Marsden," is proceeding satisfactorily. The portions undertaken by Mr. Barclay V. Head and Mr. E. T. Rogers are finished; and those by Mr. Percy Gardner and Mr. Rhys Davids are in type.

M. Tiesenhausen has published in a Boll. Italiano two letters; the first giving a résumé of numismatic work for the last year, and the second an account of the numismatic studies of Don Francisco Codera y Zaidin, who has published some able numismatic essays on Arabic coins in different Spanish journals; and Sir E. Clive Bayley, in the *Indian Antiquary*, No. 65, some excellent Notes on Gupta Coins, in which he

shows that Dr. Bühler has now been able to elucidate several points heretofore doubtful. He has, also, added some useful remarks on the eras to be adopted for coins of this class.

Lastly, in the Numismatic Chronicle, Mr. B. V. Head has printed an exhaustive memoir "On the Coinage of Lydia and of Persia."

At the conclusion of the reading of the Report, the President of the Society, Sir Edward Colebrooke, called on Professor Monier Williams to move the adoption of the Report, asking him at the same time to give some account of his recent visit to India.

Professor Monier Williams said,—At our anniversary meeting last year, I stated some of the reasons for my first visit to India and some of the results of my travels. Surprise has been expressed that I should have made a second journey to India so soon after my first. I may, perhaps, be allowed to explain that, on the first occasion, I had only leave of absence for six months, and, on my return to Oxford, I soon discovered that the task I had set myself had not been completely accomplished. I found, in fact, that I only knew half of India; for the south is quite a different country from the north. I had been at Bombay and Calcutta during the Prince of Wales' visit, and had witnessed such sights as had never before been seen in India, and met such an assemblage of native princes as had never before been gathered together in one place; but I knew nothing of the other great capital city where our power was first established—Madras.

I had seen many celebrated temples, including those of Benares and Amritsar, but had never beheld a really typical Hindú temple either of Vishṇu or Śiva—I mean a temple of any real magnitude and imposing proportions, and complete in all its paraphernalia—any specimen, in fact, of grand Indian Architecture, such as is only afforded by the Pagodas of the South.

I had seen Elephanta and Násik, but no grand typical caves illustrating Bráhmanism, Buddhism and Jainism, side by side, as at Ellora.

I had gained some insight into Vaishṇava sects, and had learnt much about the Tántrikas, but was ignorant of the systems founded by the South Indian leaders of religious thought. I had studied some of the Áryan languages of India, but knew very little about the Drávidian.

Of course I made Madras one of my principal objects; but I found it a very disappointing place—a mere straggling collection of detached houses and streets, spread out in patches or coagulations for ten miles along the dead-level of a perfectly flat sea-shore, without river, harbour, or attractive scenery. Still three things interested me—first, the Black Town with its varied population; secondly, Fort St. George, teeming with historical reminiscences; thirdly, the quarter called Triplicane, which has a remarkable temple dedicated to *Pártha-sárathi* or Kṛishṇa in his character of Arjuna's charioteer.

I may mention that before I left Madras, a number of intelligent young natives, undergraduates of the University, who had formed themselves into an Oriental Dramatic Company, came to me. They had learnt to act the Śakuntalá and other well-known Sanskrit plays, and they requested me to be present at one of their performances.

From Madras I went to Kánjíveram (in Sanskrit *Kánchipuram*). It is one of the seven sacred cities of India—a thoroughly Hindú town of 35,000 inhabitants, without a single European resident. I had to sleep at the railway station.

Its two principal temples are magnificent structures, one to Vishṇu under the name *Varada-rája*, king of boon-givers, at one end of the town; the other to Śiva under the name *Ekámra-nátha*, lord of the one Mango-tree, at the other end.

In the former there is an exquisite open hall (*Maṇṭapa*) with a roof supported by a thousand columns.

The Śiva-temple is said to be as old as Vikramáditya. It

has one of the highest Gopuras or gateways in India, probably more than 200 feet high. From one of the stories I had a good view of the interior shrine (containing a Svayambhu Lingam), surrounded by successive quadrangular walls, forming street-like courts all round it, for circumambulation. In the interior court is a solitary Mango-tree (*ámra*), here dedicated to the worship of Śiva, just as at Trichinopoly there is a temple dedicated to Śiva as lord of a particular Jambu-tree (*Jambukeśvara*). Another Śiva-temple in Kánchí has a Pípal-tree, underneath which stone Nágas or serpents are set up, the idea being that if a man has no son, he has killed a serpent in a previous birth. The connexion of Śiva with tree and serpent worship is noteworthy.

The next temple I visited was that of Śrírangam at Trichinopoly, dedicated to Vishṇu. This is perhaps the most remarkable temple in the South of India. The interior shrine is shaped like the mystical syllable Om or A U M, typical of Brahmá, Vishṇu and Śiva, and on its summit are four pinnacles to denote the four Vedas. Around it are constructed seven massive quadrangular walls forming seven wide quadrangular streets, with Gopuras or gateways on each side of each square. At intervals through the streets are the houses of Bráhmans built up against the walls, shrines of saints, open halls, one of which has a thousand columns, and beautiful stone carvings.

The whole seven-walled temple is supposed to be a terrestrial counterpart of Vishṇu's heaven Vaikuṇṭha, with its seven degrees of bliss. The principal idol of Vishṇu is recumbent and is supposed to be immovable. The *Utsava-vigraha* or portable idol used at festivals, has decorations worth lacks of rupees. In the centre of the inner wall of the temple, near the shrine, is a narrow door called heaven's gate. I was at Śrírangam on the one day of the year (the Vaikuṇṭhaikádaśí) when this gate is opened; but as the opening took place at four in the morning, was not myself present. I was told that 50,000

people crowded through this strait and narrow passage for hours, following the idol borne in front amid deafening shouts and the sounds of all kinds of music. The passage of the earthly heaven's gate is supposed to be a passport to beatitude in Vishṇu's heaven above.

Let me next say a few words about Tanjore. Its temple has no interior encircling walls, but has an immense paved quadrangle—far larger than that of Christ Church or Trinity College—kept scrupulously clean, with a grove of palm-trees on one side. The central lingam-shrine has a colossal stone bull looking into it, and is surrounded by other detached temples of Gaṇeśa, Subrahmaṇya and Párvatí, all of them beautiful as specimens of Indian architecture. I should mention that Gaṇeśa and Subrahmaṇya (the latter called Skanda or Kárttikeya in Northern India) are both very favourite gods in the South. Gaṇeśa, however, is popular all over India. They are both sons of Śiva, and, in my opinion, the real reason for their popularity is their supposed power over the devils, who obstruct all undertakings. Gaṇeśa is usually called the god of Wisdom, but he is really the lord of the troops of devils, and Subrahmaṇya is the martial god who defeats the demon armies. All round the quadrangle of the Tanjore temple is a kind of double cloister containing a row of 108 lingams of different sizes set up at regular intervals, and behind them frescoes representing Śiva's exploits.

The next temple I visited was that of Madura. It is a wonderful pile. There are two shrines in this temple, at the end of long corridors, presenting beautiful vistas of columns, one to Śiva, called Sundareśvara, and the other to a local goddess called Mínáchí (Mínákshí), probably adopted by the Áryans, and converted into Śiva's wife. She is said to have been the daughter of one of the Páṇḍya Rájas, afterwards deified. She is the popular deity of this district, more popular than her husband, and Madura itself is often called Mínáchípur.

Perhaps Rámeśvaram is the most interesting temple of all. It is the Benares of Southern India. A longing to visit this place first took possession of me on reading, many years ago, Mr. Cust's article, in the Calcutta Review, on the Rámáyaṇa. I ought also to mention that Mr. Fergusson's last work on Indian Architecture was my constant companion during all my Indian journeys.

We had great difficulty in making our way in bullock bandies, through a sandy waste, first to Rámnád, and thence to the island, at the further end of which the Rámeśvaram temple stands surrounded by a small town.

The island is separated from the mainland by the Pámben Channel, about a mile wide. The temple—chiefly built by the Zamíndars of Rámnád—is a splendid structure, with immense galleries or corridors surrounding the lingam-shrine. It is close to the sea-shore, overlooking the coral-reefs, called *Ráma-setu*, Ráma's bridge, separating India from Ceylon, and extending twenty-one miles to Manaar island.

The temple is not dedicated to Ráma, but to Śiva, Ráma himself having set up a lingam there and worshipped it on his return from Ceylon. A pilgrimage to Benares is not complete, unless followed by one to Rámeśvaram. Pilgrims first journey to Viśveśvara (the Śiva-temple at Benares), fill jars with holy water from the Ganges, and then toil on foot, through dust and sand, 1200 miles, to Rámeśvaram, where the Ganges water is poured over the lingam with the supposed certainty of securing beatitude hereafter.

It is remarkable that while our system of education is undermining the belief of a certain class of people in these miserable superstitions, our civilization, railways, and good government, by facilitating communication, order, and sanitary regulations at large religious gatherings, is increasing the number of pilgrims, and filling the pockets of the priests at places like Rámeśvaram.

Through the kindness of Sir Richard Meade and Sir Sálar

Jung, I visited Hyderabad and Ellora under most advantageous circumstances. Mr. Burgess was hard at work at Ellora, and I had the advantage of his guidance in examining the caves. For a comparison of Bráhmanism with Buddhism and Jainism, they are most instructive.

I consider the Kailása temple, cut out of the solid rock, externally and internally, one of the wonders of the world—perhaps the third sight of India, the Himálayas coming first, and the Táj at Agra second.

With regard to the sects, these, of course, received a large share of my attention. A large number of Bráhmans in the South say they belong to no sect at all, but call themselves Smártas or followers of *Smriti*, strict Bráhmanical tradition. They acknowledge Śankaráćárya as their leader, and are Advaitís, that is, pure pantheists.

The great Śaiva sect of the South is that of the Lingaits—a very important and increasing body of men. They were founded by Basava (=Vṛishabha) in the twelfth century. He was a native of the Deccan. They reject caste and Bráhmanical authority and all idolatry except adoration of the Lingam, carried in a silver casket slung round their necks. They are also opposed to many Hindú usages, such as burning the dead.

The followers of Rámánuja and Madhva, the former of whom lived in the twelfth, and the latter in the thirteenth century, constitute the great Vaishṇava sects of Southern India. The Rámánujas are split into two parties—the Northern men called Vadagalais, and the Southern men called Tengalais. They differ very much as Arminians and Calvinists. The doctrine of the one is called the Monkey-hold system; that of the other, the Cat-hold system. In philosophy the Rámánujas are *Visishṭádvaitis*, half dualistic and half pantheistic. The Mádhvas are *Dvaitis*, dualists.

It is evident that Vaishṇavism and Śaivism are the very heart and soul of modern Hindúism, and that they are to be found in their most pronounced and unmitigated form in

Southern India. In the North Hindúism has become more or less diluted by Muhammadanism and other influences. Nowhere in the north, not even at Benares, can be seen anything equal to the pagodas of Southern India.

One of my objects in my second journey was to inquire into the devil-worship prevalent in Southern India. All India labours more or less under what may be called Demonophobia, but the South is particularly so afflicted.

Southern India and Ceylon constitute the great devil region. Every village has its own devils (*bhúta*, *piśácha*, *preta*), who inflict blight, drought, diseases, and evils of all kinds, to which inflictions every village is liable unless defended by its own tutelary deities (*gráma-devatáh*). All devils are thought to delight in dancing, especially if accompanied with violent gesticulations and wild cries. Hence, in popular belief, the devils of small-pox, cholera, or fever, will leave the persons of their victims and occupy those of the dancers, without inflicting harm on them. I witnessed such a dance one night in Ceylon. There were three dancers who personated the demons of three forms of typhus fever, carried flaring torches, and were dressed in grotesque costumes with hideous masks. Their wild shrieks and horrible antics will remain indelibly fixed on my memory. Devil-dancing, however, is not properly part of Buddhism.

The cold, negative, and sleepy character of the Buddhism of Ceylon struck me very forcibly as contrasted with the noisy demonstrative Hindúism of Southern India. Buddhism may be described as a kind of fine-weather religion suited only for summer days. In times of trouble the Sinhalese have recourse to the Hindú gods. At other times their only form of worship consists in bringing scented flowers and offering them before the images of Buddha.

Another object of my second visit to India was to investigate the comparative importance of the Drávidian languages. I was much impressed with the superiority of Tamil to Telugu,

though its written characters are defective. It is a vigorous language spoken by fifteen millions, and has a considerable literature independent of Sanskrit. Tamil and Telugu will probably in time swallow up Malayálam and Kanarese respectively. It is to be hoped that the Civil Service Commissioners will no longer make Telugu the only language compulsory on the selected candidates destined for Madras. I may mention that I found Sanskrit spoken as commonly and with as much fluency by Pandits in the South of India as in the North.

At Tanjore there is the finest Oriental library in all India, perhaps in all the world. There are about 1800 Sanskrit MSS., many of them written in the Telugu and Grantham characters, and many brought there by learned Pandits from the Maráthí country, after the Maráthís had conquered this part of India. It was here that I first made the personal acquaintance of Dr. Burnell, the well-known Sanskrit scholar, now judge of Tanjore, who is cataloguing the MSS. He has himself a valuable Sanskrit library, including a copy of all the Ápastamba Sútras, probably the only complete collection that exists in one library.

I may mention, in conclusion, that while in India I gained several new supporters of my Oxford Indian Institute scheme; among others, the Mahárájas of Travancore and Darbhanga. I had a great accession in Mr. T. Brassey, M.P., who wrote to me from his yacht at Penang, during his voyage round the world, and promised me a munificent contribution. Also I received many additional petitions from natives and others for the founding of an Indian school for granting degrees in the University of Oxford. I am happy to notify that the Hebdomadal Council is likely to bring forward a proposal for the founding of such a school in the course of next term.

Let me apologize for the unconscionable manner in which I have taken up your time.

At the conclusion of his speech, Prof. Williams formally moved, and Mr. L. Bowring seconded, the adoption of the Report.

Sir Edward Colebrooke then said—Before putting the motion, I wish to express the satisfaction of myself and the Council that the Report has received the stamp of approbation which has been set upon it by Prof. Monier Williams, and I hope the statement which he has made will be printed with our publications, that it may have a wider circulation and be read by a larger number of persons than are now assembled, containing, as it does, so many interesting facts concerning the religious condition of the South of India, to which Prof. Williams' remarks chiefly refer. I wish also to remark that we have listened with satisfaction to the announcement that the University of Oxford has now matured the scheme, in which Prof. Williams takes so much interest, for the foundation of a school for special studies connected with India. The subject is, no doubt, attended with some difficulty, as it is mixed up with other considerations connected with the training of young men for the public service—the age at which they should proceed to India, and the possibility of supplying at our universities a special training which may compete with professional tutors. Jealousy has already been excited by the recent changes, and it would be premature to give an opinion on a question which is likely to be discussed in Parliament. I will, however, express my hope that these difficulties may be overcome, and that the efforts now being made to make the University of Oxford a school of study for the East as well as the West, may be rendered available not only to the youths of these islands, but also to our native fellow-subjects.

I am happy to state that our position as a society is, on the whole, satisfactory. The Report itself affords evidence of our literary activity, and the financial position of the Society is sound, though it can hardly be said

to be prosperous; and we cannot afford to omit using every effort to add to our numbers, and to invite the co-operation of all who take an interest in the literature and antiquities of the East. It has not been possible, in the short time allotted to the reading of the Report, to give, in detail, the vast amount of work that is proceeding in all parts of the world, and which is very fully set forth. It is, undoubtedly, a matter of congratulation that we should find on all sides these signs of activity, accompanied, as it is, by something of regret that the work should be diffused through so many channels, that it loses much of its interest from the want of concentration. If the labours of the English-speaking societies only were embodied in a single publication, and their discussions carried on at one and the same meeting, the interest would be vastly increased, and a force would be given to our efforts which it would be difficult to calculate. This, however, cannot be. The republic of letters is too widely spread to admit of that, but, failing this, there may be such interchange of views through their works and correspondence as may make us feel that we are members of one great union, with common interests and pursuits; and further, that occasional opportunities should be afforded of meetings which admit of personal exchange of views. The latter object has been attained by those Oriental Congresses which have now been held in three of the principal Capitals of Europe, and promise to make the tour of the West. One thing seems to be wanting to the success of such gatherings, viz. that they should admit of some organization like that of the British Association for the Advancement of Science, and similar institutions, so as to insure a complete record of their proceedings, and some method in their work, so as to invite and encourage special investigations. I will not affirm that the proposal can assume an active shape, but it appears to me to deserve consideration.

I feel more than ever convinced that there is a vast amount of work before us and that there was never a time

when it was of more importance that accurate knowledge should prevail, not merely with regard to India, but to Asia generally. There is no lack of interest in these matters. Anything which throws a light on the ancient religion and literature of India, the political condition and the manners of the people in remote times, must have an abiding interest, and the public are fully impressed with the importance of these studies as illustrating the growth of opinion and progress of mankind in the West as well as the East. Papers devoted to Eastern questions constantly find a place in publications of other societies or in works which have a more special bearing on the history of the West. This arises from causes which have long been in operation. Researches, whether in science or literature, are classified, not according to geography, but according to subjects. Special branches are cultivated leading to division of labour and of interest. This may sometimes be carried too far, but we cannot doubt that both literature and science have benefited by it. I met, only a few days since, a curious illustration of this in a Dictionary of Christian Biography recently published. There will be found an elaborate article on the Life and Doctrines of Buddha, and its bearing on the modes of thought which prevailed in the early ages of Christianity, by a distinguished Oriental scholar and a Member of our Society. This is encouraging to those who are working in fields unconnected with matters of popular interest, and with no immediate prospect of reward beyond the interest they derive from their studies, or the good opinion of the few who can appreciate their endeavours; they may be really laying the foundation of knowledge which may benefit mankind and spread through the world. I have said there never was a time when it was of more importance that accurate information should prevail with regard to the East. We are now, perhaps, on the eve of events which will affect materially the political condition of Asia. Admitting fully the great interest which the public take in questions bearing on the

East, I have been constantly struck by the imperfect and inaccurate notions which are put forward. Indeed, in carrying out a recent inquiry, the result of which will appear in the next number of our journal, I have been thoroughly impressed with my own imperfections, and the more so when I consider how large are the materials which are available for an accurate history of Asia from the rise of the Muhammadan power, and how important it is that they should be within the reach of Western readers. The Oriental Translation Fund rendered good service in its time, and it is very much to be regretted that its labours have now ceased. Good work has also been rendered by the Government of France. Valuable light has been thrown on the life and career of Muhammad by the works of Sir W. Muir and by Dr. Sprenger. The exertions of the late Sir H. Elliot, to promote the study of Indian history during the Muhammadan period from original sources, has been followed up by a most valuable publication, which has now reached its seventh volume. The importance of studying the vast material which India possesses in this respect was indeed pressed upon the Society a few years ago in a paper by Colonel Nassau Lees. We have further the prospect of a complete edition of one of the most valuable Arabic historical works—the Tabari. This good work may, I hope, be followed up. The public is no longer satisfied with the historical compendiums which suited the wants of former generations. There is a desire to refer to original authorities and to read history in special chapters or in the lives of great men. The aim is to know thoroughly not merely the course of events, but the springs of action which have directed men and nations. Much of this is within our reach, and I hope it may be arrived at by the revival of the work of the Oriental Translation Fund, with such aid as we are entitled to expect from the Government of India. In these remarks I am to be understood as expressing my own opinion only; as they are not matters which have been under the consideration of the Council.

On one other matter only I desire to make a remark. Your Council have reported both last year and in the present report, that they have not thought it their duty to take any action in promoting the establishment of the Indian Museum on the Thames Embankment, although, for many years past, they have supported proposals for the erection of a museum on a permanent site. It was hoped that this might be combined with some advantage to this Society. When, however, they were invited to consider the question last year, it was combined with a much larger and more costly proposal, in connexion, not merely with India, but the Colonies, which would have involved an appeal to Parliament for funds, or to private contributions. I wish to do every justice to the indomitable exertions of Dr. Forbes Watson in promoting this scheme, and will not say a word to discourage the exertions of those who desire to promote it; but it seemed to me, as I think it did to the Council, too large a question for us to take up. I should have hesitated to press it in this form on Parliament, and we could not undertake a canvass for subscriptions. At the same time, the Council do not abate in any way in their hope that a building for the Indian Museum may be ultimately erected. I have now, on the part of the Council and myself, to say that we feel very grateful to the Members of the Society for the support accorded by them, and that to merit this we will always do our best.

Sir Edward Colebrooke then announced the following Members to serve as the Council and Officers of the ensuing year, 1877–8:

President.—Sir T. E. Colebrooke, Bart., M.P.

Director.—Major-General Sir H. C. Rawlinson, K.C.B., D.C.L., F.R.S.

Vice-Presidents.—Sir Rutherford Alcock, K.C.B.; James Fergusson, Esq., D.C.L., F.R.S.; Arthur Grote, Esq.; Brian H. Hodgson, Esq., F.R.S.

Council.—N. B. E. Baillie, Esq.; Rev. John Davies; Hon.

E. Drummond; M. P. Edgeworth, Esq.; Sir Barrow Ellis, K.C.S.I.; Sir Douglas Forsyth, K.C.S.I., C.B.; H. W. Freeland, Esq.; Major Fryer, Madras Staff Corps; W. W. Hunter, Esq., B.A., LL.D.; Colonel Nassau Lees, LL.D.; T. K. Lynch, Esq.; Lord Arthur Russell, M.P.; the Right Hon. the Lord Stanley of Alderley; M. J. Walhouse, Esq.; Col. Yule, C.B.

Treasurer.—Edward Thomas, Esq., F.R.S.

Secretary and Librarian.—W. S. W. Vaux, M.A., F.R.S.

Honorary Secretary.—Thos. Chenery, Esq., Lord Almoner's Professor of Arabic, Oxford.

Honorary Librarian.—R. N. Cust, Esq.

Donations to Library.—The Council have to report donations to their Library from

The Royal Society of London.
The Royal Society of Edinburgh.
The Royal Irish Academy.
The Royal Institution.
The Royal Geographical Society of London.
The Royal Horticultural Society.
The Royal Society of Literature.
The Royal Agricultural Society of England.
The Royal Dublin Society.
The Royal Geological Society of Ireland.
The Royal Society of Victoria (Australia).
The Royal Society of Tasmania (Van Dieman's Land).
The Trustees of the British Museum.
The Asiatic Society of Bengal.
The Bombay Branch of the Asiatic Society.
The North China Branch of the Asiatic Society.
The Japan Asiatic Society.
The East India Association.
The Society of Biblical Archæology.
The Society of Antiquaries of London.
The Zoological Society of London.
The Linnæan Society of London.
The Numismatic Society of London.
The Statistical Society of London.
The Geological Society of London.
The Astronomical Society of London.
The London Institution.
The Anthropological Institute.
The Society of Arts.

The Cambridge Philosophical Society.
The English and Foreign Bible Society.
The Historical Society of Lancashire and Cheshire.
The Liverpool Literary and Scientific Institution.
The Philosophical Society of Manchester.
The Proprietors of the Canadian Journal of Science.
The Proprietors of the United Service Journal.
The Société Asiatique de Paris.
The Société Ethnologique de Paris.
The Société Géographique de Paris.
The Société de la Géographie de Bordeaux.
The Académie des Sciences de Montpellier.
The Royal Academy of Lombardy.
The Royal Academy of Belgium.
The Royal Academy of Turin.
The Royal Academy "dei Lincei" at Rome.
The Royal Academy of Vienna.
The German Oriental Society.
The Royal Academy of Berlin.
The Geographical Society of Berlin.
The Royal Academy of Munich.
The University of Bonn.
Bataviaasch Genootschap.
Konink. Institut. d. Nederlandsche-Indie.
Hungarian Academy of Pesth.
The Imperial Academy of St. Petershurg.
The Society of Northern Antiquaries of Copenhagen.
The Academy of Natural Science, Philadelphia.
The American Ethnological Society.
The American Philosophical Society.
The Institute of New Zealand.

The Society also takes in the following papers:—

The Indian Antiquary.
The Revue Critique.
The Literarisches Central Blatt.
The Oriental Publications of the Palæographical Society.

The Journal of the Society is sent to

The Royal Library at Windsor.
The Secretary of State for India.
The India Office Library.
Royal Society of London.
Royal Institution.
Society of Arts.
Society of Antiquaries of London.
The Linnæan Society of London.
Royal Horticultural Society.
Zoological Society of London.

Royal Astronomical Society.
Royal Geographical Society.
Geological Society of London.
British and Foreign Bible Society.
United Service Institution.
Society for Promoting Christian Knowledge.
Royal Agricultural Society.
Royal Society of Literature.
The Royal College of Surgeons.
The Library of the House of Commons.
The Society for the Propagation of the Gospel.
The Numismatic Society of London.
The Statistical Society of London.
Historic Society of Lancashire and Cheshire.
Philosophical Society of Manchester.
Literary and Philosophical Society of Liverpool.
The London Institution.
The Public Library, Cambridge.
Anthropological Institute
Devon and Exeter Institute.
Royal Dublin Society.
Royal Irish Academy.
Royal Society of Edinburgh.
University College, London.
Advocates' Library, Edinburgh.
Trinity College Library, Dublin.
British Museum.
Bodleian Library.

And to many other Societies abroad.

The Society has also received the following papers :—

The Athenæum. The Prakash. The Pandit. Native Opinion. Mookerjee's Magazine. The Japan Mail. Mission Field.

The Society has also received the following individual donations :—

Breek's Primitive Tribes of the Nilagiris.

Burgess, Second Report on Archæology.

Album of Photographs of Sculptures from the Lahore Museum.

Beal, Rev. S. The Buddhist Tripitaka, as known in China and Japan.

A Collection of Treaties, Engagements, and Sunnuds, etc., relating to India, and the Neighbouring Countries. 7 vols. Calcutta, 1876. From the Secretary of State for India. Together with a very complete set of the principal Reports printed during the year in the Presidencies of Bengal, Bombay, and Madras, Burma, etc.

Denderah. Description générale publ. sous les auspices de S. A. Khedive d'Egypte. 4 vols. fol. Text, 1 vol. 4°. From the French Government.

Monuments divers de l'Egypte et de la Nubie par M. Mariette. 18 livr. fol. From the French Government.

Mélanges d'Archéologie Egyptienne et Assyrienne. Vol. i. livr. 1–3. Vol. ii. livr. 1–4. Vol. iii. livr. 1. From the French Government.

Etudes Egyptologiques. 7 vols. 4°. From the French Government.

Mir Abd ul Kerim. History of Central Asia. Translated by C. Schefer. From the French Government.

Riza Qouly Khan's Account of Embassy to Khiva. Pers. text. 2 parts. From the French Government.

Reise der Oesterreichischen Frigate Novara am die Erde in den Jahren 1857, 1858, 1859, in xviii. parts, 4°. Statistisch-Commercieller Theil. 2 parts. Anthropologischer Theil. 3 parts. Nautisch-Physikalischer Theil. 1 part. Botanischen Theil. 1 part. Zoologischer Theil. 6 parts. Geologischer Theil. 3 parts. Linguistischer Theil. 1 part. From the Austrian Government.

And the following individual works :—

Garcin de Tassy. La langue et littérature Hindoustani, for 1876. From the Author.

——— Allégories, recits poetiques et chants populaires de l'Arabe, Persan, l'Hindoustanie et Turc. 2nd edition. From the Author.

Bhashyam Timmalachryar; or, Welcome Address to H.R.H. the Prince of Wales in Sanskrit.

Hhikajat Kalila was Dimna. In Dutch. From the Translator, J. R. P. F. Gongrief.

Howorth, H. H. History of the Mongols. Vol. I. From the Author.

Humboldt, W. von. Ueber die Verschiedenheit Menschlichen Sprachbaues. New edition, by Prof. A. W. Pott. From the Publishers, Messrs. Calvary & Co., Berlin.

Land, J. N. P. The Principles of Hebrew Grammar. From the Translator, R. L. Poole, Esq.

Tagore Sourindro Mohun, English Verses set to Music by, in honour of the visit of the Prince of Wales to India. From the Author.

Beames, J. Comparative Grammar of the Modern Aryan Languages of India. Vol. II. From Mr. Trübner.

(1) Kawi Orkoonden, inleidung en transcriptie. (2) Kawi Orkoonden, in facsimile. From the Batavian Antiquarian Society.

Quellen sur Geschichte des Tauf's Symbols under der glaubens regel, by Dr. C. Caspari. Vol. III. From the Author.

The Shaddarshana-Chiutanika, or Studies in Indian Philosophy. From Prof. Monier Williams, D.C.L.

A History of the Prattana Prabhus, by Shamrao Moroji Nayak. From the Author.

A Grammar of the Baloochee Language, by Major E. Mocklcr. From the Author.

Key to the Genealogical Table of the First Patriarchs in Genesis, by V. Rydberg. From S. M. Drach, Esq.

Haas, E. Catalogue of the Sanskrit MSS. and Pali Books in the British Museum. From the Trustees of the British Museum.

Schuyler, E., U.S. Chargé d'Affaires, Constantinople. Turkestan. Two vols. 8vo. From the Author.

Eastern Persia in 1870–72. Two vols. From the Author, Major-General Sir F. Goldsmid, K.C.S.I.

Morris, Rev. R. Fourth and Fifth Addresses to the Philological Society. From R. N. Cust, Esq.

Dr. Buist. Index to Books on India. From A. Burrell, Esq.

Lenormant, F. Etudes des Syllabaires Cunéiformes. Paris, 1877. From the Author.

Classified Catalogue of the Library of the Royal Geographical Society. From the Society.

The Lands of Kazembe. By Capt. R. Burton. From the same.

Investigations on the Armenian Language. By K. Patkanova. From the Rev. J. Long.

On Russian Proverbs. By the Rev. J. Long. From ibid.

On Oriental Proverbs and their Uses. By the Rev. J. Long. From ibid.

Russian Trade with India. From Gazette of India, 1870. By the Rev. J. Long. From ibid.

Russia and England in Central Asia. From ibid.

The Decline of Turkey Financially and Politically. By J. Lewis Farley. From ibid.

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Kachayano's Pali Grammar; in Pali and Burmese. A MS. From Capt. C. J. F. Forbes.

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Armenia and the Armenians. By the same. From the same.

History of Nepal from the Parbatíya. By Daniel Wright, Esq., M.D. From the Author.

Transactions of the Literary Society of Bombay. Three vols. (reprinted). From Rao Sahib Mandlik.

Ghose Rashbehary. Law of Mortgages in India. (The Tagore Lectures for 1875-6.) From Prof. Ghose.

En Papyrus i Turin. By J. Lieblein. From the Author.

Vedárthayatna. A Marathi and English Translation of the Rig-Veda.

De Vigtigste Udtryk for begrebene Herre og Fyrste i de Semitiske Sprog. By E. Blix. From the Author.

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Fergusson, J., F.R.S. The Brocks and the Rude Stone Monuments of the Orkney Islands. From the Author.

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